Universidade de Aveiro
2012

Departamento de Economia,Gestão e Engenharia Industrial

SASMITA MOHANTY

MUDANÇAS ESTRATÉGICA NO SECTOR DAS TELECOMUNICAÇÕES: EUROPA VS. ÍNDIA

STRATEGIC CHANGES IN THE TELECOMMUNICATIONS SECTOR: EUROPE VS. INDIA

Universidade de Aveiro
2012

Departamento de Economia,Gestão e Engenharia Industrial

SASMITA MOHANTY

MUDANÇAS ESTRATÉGICA NO SECTOR DAS TELECOMUNICAÇÕES: EUROPA VS. ÍNDIA

STRATEGIC CHANGES IN THE TELECOMMUNICATIONS SECTOR: EUROPE VS. INDIA

Dissertação apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Gestão, realizada sob a orientação científica do Doutor António Carrizo Moreira, Professor Auxiliar do Departamento de Economia,Gestão e Engenharia Industrial da Universidade de Aveiro

Este trabalho é dedicado à minha família e sogros.

o júri

presidente

Prof[a]. Doutora Maria Madalena Gomes Vilas Boas
Professora Auxiliar Convidada, Departamento de Economia,Gestão e Engenharia Industrial, Universidade de Aveiro

Prof. Doutor Daniel Ferreira Polonia
Professor Auxiliar Convidado, Departamento de Economia,Gestão e Engenharia Industrial, Universidade de Aveiro

Prof. Doutor António Carrizo Moreira
Professor Auxiliar, Departamento de Economia,Gestão e Engenharia Industrial, Universidade de Aveiro

agradecimentos Este trabalho foi feito com ajuda valiosa e sugestões de vários amigos, colegas e professores. Um agradecimento especial a minha tese de conselheiro António Carrizo Moreira Prof por sua orientação e valiosas sugestões.

Agradeço também a meus familiares pelo seu amor e apoio. Especialmente, ao meu marido que me ajudou em vários aspectos.

palavras-chave Gestão de Telecomunicações, a estratégia de estratégia, em telecomunicações, mudanças estratégicas em telecom, telecomunicações na Europa, as mudanças estratégicas no setor de telecomunicações na Europa, indiano de telecomunicações, as mudanças estratégicas no setor de telecomunicações indiano.

resumo Neste trabalho, as mudanças estratégicas no setor de telecomunicações da Europa são estudados. Dez maiores empresas da Europa são selecionados para esta análise. Suas mudanças estratégicas sobre a década 2001 - 2011 são estudadas e analisadas. Essas mudanças estratégicas do mercado Telecom Europeia são posteriormente comparados com o seu homólogo indiano. Estes dois mercados são, então, analisada a partir dos pontos de vista de mudanças estratégicas. Finalmente, as semelhanças e diferenças entre os dois mercados são analisados e comparados.

keywords Telecommunication management, strategy, strategy in telecom, strategic changes in telecom, telecom in Europe, strategic changes in telecom sector in Europe, Indian telecom, strategic changes in Indian telecom sector

abstract In this work, the strategic changes in the telecom sector of Europe are studied. Ten largest companies of Europe are selected for this analysis. Their strategic changes over the 2001 – 2011 decade are studied and analyzed. These strategic changes of European Telecom market are subsequently compared with its Indian counterpart. These two markets are then analyzed from the view points of strategic changes. Finally, the similarities and differences between the two markets are analyzed and compared.

Contents

List of Abbreviations

3	:	3G and other advanced service provider of Hutchinson Whampoa
2G	:	2nd Generation of Mobile Communications
2.5G	:	The Intermediate Generation between 2G and 3G
3G	:	3rd Generation of Mobile Communications
4G	:	4th Generation of Mobile Communications
ADSL	:	Asymmetric Digital Subscriber Line
AT & T	:	American Telephone and Telegraph
BLS	:	Bureau of Labor Statistics (of USA)
BSNL	:	Bharat Sanchar Nigam Limited (An Indian Company)
BT	:	British Telecom
CATV	:	Cable Television
CDG	:	CDMA Development Group
CEO	:	Chief Executive Officer
CERN	:	European Organization for Nuclear Research
CIS	:	Commonwealth of Independent States
CTIA	:	Cellular Telecommunications & Internet Association
CWW	:	Cable and Wireless Worldwide
DoT	:	Department of Telecommunications (India)
DSL	:	Digital Subscriber Line
DTH	:	Direct To Home
EBITDA	:	Earnings Before Interest, Taxes, Depreciation, and Amortization
EU	:	European Union
FCC	:	Federal Communications Commission (of USA)
FDI	:	Foreign Direct Investment
FTSE	:	Financial Times Stock Exchange (Indicator of LSE)
GBP	:	Great Britain Pound
Gbps	:	Giga Bits per second
GDP	:	Gross Domestic Product
GPRS	:	General Packet Radio Service
GPS	:	Global Positioning System
GSM	:	Global System for Mobile (Communication)
HSDPA	:	High-Speed Downlink Packet Access
ICT	:	Information and Communication Technologies
INR	:	Indian Rupees
IPTV	:	Internet Protocol Television
IT	:	Information Technology
ITA	:	International Trade Administration (Dept. of Commerce)
ITU	:	International Telecommunication Union
ITW	:	InternetWorldStats
Kbps	:	Kilo Bits per second
LTE	:	Long Term Evolution
Mbps	:	Mega Bits per second
MTNL	:	Mahanagar Telephone Nigam Limited
MTS	:	Mobile Tele-System
NSN	:	Nokia Siemens Networks
NTT	:	Nippon Telegraph and Telephone
OCED	:	Organization for Economic Co-operation and Development
PC	:	Personal Computer
PON	:	Passive Optical Network
PRE	:	Plunkett Research Estimate
PT	:	Portugal Telecom

R&D	:	Research and Development
SIM	:	Subscriber´s Identity Module
SMS	:	Short Message Service
STD	:	Subscriber´s Trunk Dialing
Tbps	:	Tera Bits per second
TIA	:	Telecommunications Industry Association
TIM	:	Telecom Italia Mobile
TRAI	:	Telecommunications Regulatory Authority of India
TV	:	Television
UK	:	United Kingdom
UMTS	:	Universal Mobile Telecommunication System
UN	:	United Nations
USA	:	United States of America
USD	:	United States Dollar
VAS	:	Value Added Services
VNI	:	Visual Networking Index
VoD	:	Video on Demand
VoIP	:	Voice over Internet Protocol
WiFi	:	Wireless Fidelity
WiMAX	:	Worldwide interoperability Microwave Access

List of Figures:

List of Tables:

Introduction

Telecommunications has changed the life style of people around the world. It has changed the way people do business, the way people interact remotely and almost everything to some extent in the modern world. Along with these changes, the telecom sector itself has changed a lot from its business, organization and management points of views. The early days of telecommunications had a few service providers and thus monopoly used to be observed in several countries. As it was one of the basic services, in most of the countries they were owned by the government or the public sector companies. But in the recent years, mainly after the nineties the competition has become fierce. Each year the number of service providers is increasing in every country. Globalization and liberalization have made these issues even smoother for competition and expansion. The business world has become really flat. The business and commercial issues of telecommunications have become very important. It is not only because telecommunication services are one of the basic requirements; but also due to the huge market size of this sector. All these issues make telecommunications an interesting area of business analysis.

Europe is one of the prime contributors of telecommunication science and engineering. Since the 1850s it has contributed to the telecommunications sector (IEEE, 2005). In the 21st century, its role has become pivotal in the development of new technologies. Along with that, it has played significant roles in telecom business as well. Both in and out of Europe its telecom companies have a lot of businesses. That is why the European telecom market becomes quite important in the global telecommunication marketplace. It is the main motivation for choosing the European telecom sector for this thesis work.

India is one of the largest emerging markets of telecommunications in the world. In the last couple of decades, its telecom industry has been revolutionized. With the globalization and privatization of its markets; its telecom sector is able to attract large amount of FDI (DoT, 2011). As of Dec 2011, India is the second largest national market in the world after China with more than 900 million mobile subscribers (TRAI, 2011). These huge changes of Indian telecom market are compared with its European counterpart to analyze the strategic focus of the companies of both the markets.

Along with the changes in the market and the growing number of subscribers and competition, the strategic moves are changing in every part of the world. However, Europe has more number of service providers and thus the competition gets fiercer. Europe is also one of the hot spots as far as the telecommunication related innovations and researches are concerned. There are several changes in the telecom strategies of the operators in the last decade. In this thesis, the telecom market of Europe is analyzed from the operators' strategic points of views. Strategic shifts of main companies of Europe are taken into consideration. The reasons behind the strategic shifts are analyzed. These changes of the European markets are compared with its Indian counter parts

in a similar way. There are several objectives to be achieved in this project. The main objectives of this thesis are provided here.

Objectives

The main objectives of this thesis are listed below.

1. To analyze the telecommunication market scenario of Europe over the 2001-2011 decade.
2. To identify the major changes of strategic moves of the ten main companies of Europe.
3. To compare strategic scenarios of European Telecom sector around 2001 with that of around 2011.
4. To analyze the reasons and motivations behind the strategic changes.
5. To analyze the Indian telecom sector in the similar way as that of Europe.
6. To compare the strategic shifts of the two markets

Methodology

In order to achieve the above objectives, certain methods are used in this thesis work. Ten large and important companies are chosen for this analysis. Main European companies are analyzed from their data and market positions are analyzed. Their strategic positions and market values are compared over the last one decade. Some changes are very much clear and others need careful data analysis. In fact, the total European market dynamics of the telecom industry is taken into account in this analysis.

Various steps of the methodology adopted in this work are:

1. To select ten main telecom companies of Europe. The criteria for selection are annual revenue, market capture, international influence and customer base.
2. To study the strategic moves through their policies in different markets, pricing, internationalization, expansion or contraction of coverage areas, addition or deletion of services, technological adoption, merging, acquisition and takeovers etc.
3. To compare the changes over the decadal performances and strategic shifts.
4. To select ten largest telecom operators of India keeping the same criteria as for the European company selections.
5. To analyze their strategic shifts.
6. To compare the two scenarios from the strategic changes points of views.

Previous Works

Strategy is a basic necessity of every business and it shows the way forward to the corporates. Porter (1979), provides the shapes of competitive forces from the strategic points of views. Porter (1980), gives the principal features of competitive strategy. Porter (1985), provides major advantages of competitive strategies for successful ventures. Porter (1986), Minzberg (1994) & Minzberg (1999) provide main requirements of strategies in the modern business. Porter (1998),

gives specific strategic initiative of critical competition in a versatile marketplace. There are several works on the telecom industries of different countries and continents. Rosenbush (1997) and Shaw (2000) provided several strategic management principles for telecommunications industry. Strouse (2001) describes the general strategies of telecommunication marketplace. Pehrsson (2001) presents the strategic scenarios in the emerging telecommunication markets. Porter (2001), provides the strategic advantages and risk factors of online businesses. Beardsley (1998), proposed several scenarios of the telecommunication sector competition of the 1990s and 2000s in Europe.

Zhang & Prybutok (2005), analyzed the telecom markets of China, US and Europe and compare their strategies. Sung (2011), analyzed the cable TV industry of South Korea. Steinbock (2001), analyzed the telecom innovation and development clusters of Finland. Langlade (1997), analyzes the early broadband market strategies in Asia. Krafft (2003) presents the vertical orientation of the strategic framework of telecommunication industry. Agar (2003), provides a systematic history of mobile telecommunications market. Ahonen (2002), provides the developmental issues of mobile technologies in the advanced applications such an m-commerce. Bekkers et. al. (2002), provides the strategic developments of intellectual property issues in telecommunications. Geroski (2003), provided the competitive scenarios of technology markets including telecommunications. Bhargava et. al. (2000), described the pricing issues of electronic markets and their implications.

Furuskar et. al. (1999), provides the market potential of GSM and its advanced versions. Pouillot (2002), gives UMTS oriented strategic moves of the companies during the beginning of 3G services. Kevin & Brien (2005), present the new technology initiatives in mobile communication markets. Liu & Jayakar (2012), compare the telecommunications policies of Indian and China with several strategic changes in both the markets. Albrecht (2011), provides the technological and legal issues of smart technologies in USA. Binmore & Klemperer (2002), gave a clear picture of 3G spectrum auction in the UK and its impact on the telecom industry. Bjorkdahl & Bohlin (2002), analyzed the finalcial and strategic issues of Swedish telecom market. Fan (2004), illustrates the clear picture of telecom innovation related strategies of Chinese companies. Geser (2004), analyzed the social impacts of mobile communications. Gruber & Verboven (2001), provides the evolution of telecommunications market.

Telecommunications regulations play significant role in the growth and proliferation of the industry and customers. There are several works on the telecom regulations. Whalley & Curwen (2003), presents the regulations and the strategic policies of the European companies for license acquisition. Lehr & Kiessling (1999), provides the centralized authority of telecom regulations in USA and Europe. Coen (2005), provides a comparative analysis of 3G regulations of UK and Germany. European Commission (2002), is the detailed report of European telecom regutaions for mobile communications. It provides all the major issues of telecom regulations and their implementation issues.

The rest part of this thesis is arranged in the following chapters. In Chapter 1 the overview of the global telecommunication market is analyzed with the available data. Mainly the information available from the ITU has been presented with their implications. The European telecommunication markets along with its global counterparts are analyzed in detail and the effects of indicators of strategic changes are identified.

In Chapter 2 ten largest companies of Europe are chosen for the analysis of strategic changes. Basic strategies of the ten chosen companies are analyzed for the last decade. Using the data available from the annual reports and other sources the global positions of these companies are analyzed and their growth rates are estimated. All the major factors and indicators are identified.
In Chapter 3 the internal and external strategies of the chosen companies are analyzed for the whole decade of 2001-2011. The changes of the strategies of 2001 and that of 2011 are noted down and compared.

In Chapter 4 details of the business and corporate level actions of these companies are analyzed and their business dynamics are observed. The major changes in their business level focus are documented in this chapter.

In Chapter 5 company-wise decadal strategic changes are analyzed and their implications in the company´s overall performance are noted. Then these strategic changes are summarized, their overall effects are listed and used for the comparison with the Indian telecom market.

In Chapter 6 the telecommunication market of India is analyzed from the available data from their regulatory authority, TRAI and individual company reports of the last decade. The main strategic points of India´s telecom market dynamics are carefully studied and presented in this chapter.

In chapter 7 the telecom sectors of India and Europe are compared with each other. Main strategic differences are studied and analyzed. Then the outcomes are presented as similarities and differences.

Finally, the whole work is summarized in the conclusion with few remarks on the probable changes in the future.

Chapter 1
An Overview of the Telecommunication Market

There are large numbers of publications available on the telecommunications statistics and its changing scenario in Europe. There are regular articles on these companies and telecom sectors in the magazines and newspapers. However, the total analysis of the whole decadal figure is not found in any publication with respect to the individual companies from the strategic prospective. So it is a motivating factor to analyze these collective data and to summarize the effective strategic changes. In this chapter, these data and literatures are summarized to present the telecom scenario of Europe in the last decade.

1.1 A Brief History of Telecom Industry

The electronic telecommunication started with the Morse code in 1831 (IEEE, 2005). Morse started the telegraph in the USA and then it was introduced in Europe after few years. In 1876, Alexander Graham-Bell introduced the voice communication or the telephone. Ericson started making telephone handsets in Europe in 1880s. Marconi designed and proliferated the uses of wireless radio broadcasting (IEEE, 2005 & Agar, 2003). Since that time many new players have come to telecommunications scenario and changed it. That is why so many wonders in telecommunications are seen now. Table 1 summarizes these events (IEEE, 2005) in the chronological order in brief.

Table 1 - Brief History of Telecom Industry.

1879	First telephone exchange in England opened at Coleman Street in London
1896	The Post Office took over the private sector trunk service
1912	All National Telephone Company exchanges taken over by the Post Office which became the monopoly supplier of telephone services throughout the UK
1929	Eastern & Associated Telegraph Companies merge with Marconi Wireless Telegraph Company to form Imperial and International Communications (the forerunner to Cable & Wireless)
1934	Imperial & International Communications re-named Cable & Wireless
1947	Cable & Wireless nationalized
1956	Opening of the first trans-Atlantic telephone cable
1959	First pay on answer coin box (STD), replacing Button A /Button B, introduced
1965	Telecom Tower opened for service
1966	Change to all figure telephone numbers
1966	Optical Communication prospects came into existence through research
1979	First wireless personal radio handset designed by Motorola

1984	AT&T demerged into 19 small companies
1985	Vodafone started the cellular communication services in England
1988	First Trans-Atlantic Fiber cable started operation
1989	Internet was invented at CERN, Geneva
1996	New Telecom regulations were brought in USA and other counties followed it

1.2 Basic Telecom Statistics

The global telecommunications industry has evolved dramatically in the last decade, as can be seen in Figure 1, where the growth and changing trends are presented. All the sectors except the fixed telephone lines have grown steadily. Mobile broadband came into scenario in the early years of the new millennium, but it became significant only after 2005 (ITU, 2008). So in this statistics, it has been included from 2007 onwards.

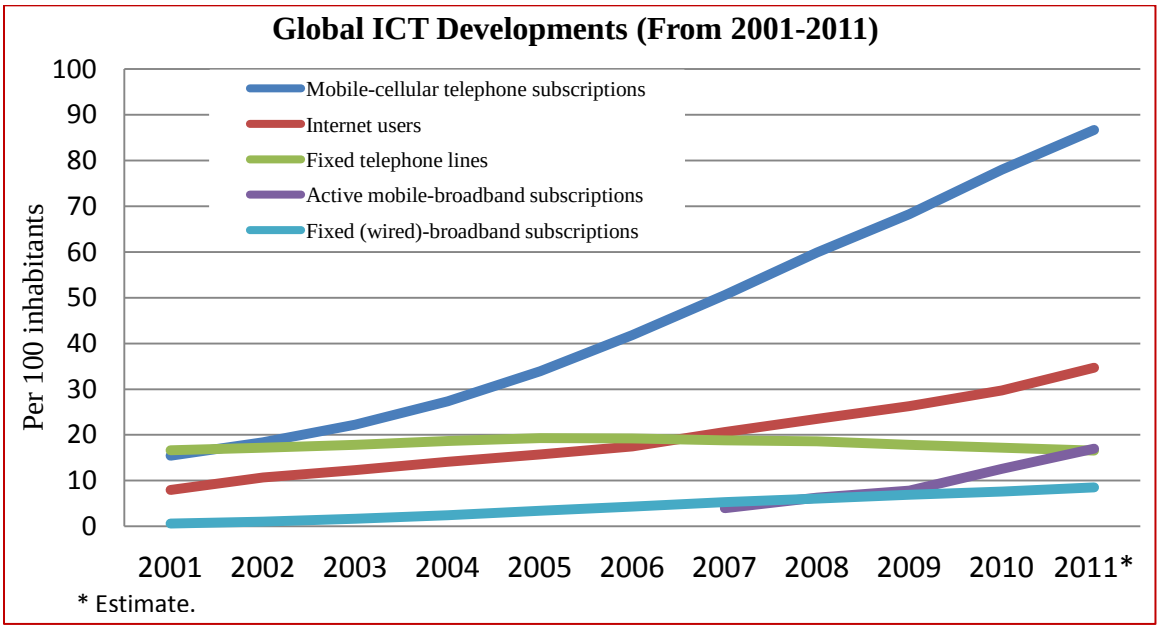


Figure 1 - Global ICT Developments. Source: ITU (2012)

Fixed telephone line is an old system technology and it is in service for more than a century (IEEE, 2005). But its medium and characteristics have changed over time. Although until 2005, its trend of growth used to be positive, it has been decreasing as its alternatives became cheaper; and people prefer to be mobile than to remain static. On the other hand, rather people prefer to go for its alternatives such as the wireless and wired broadband services. Of course in some countries of Africa and Asia it has positive growth. Figure 2 and 3 show the density of fixed telephone lines per 100 inhabitants. Clearly, there are huge differences between Europe and Africa.

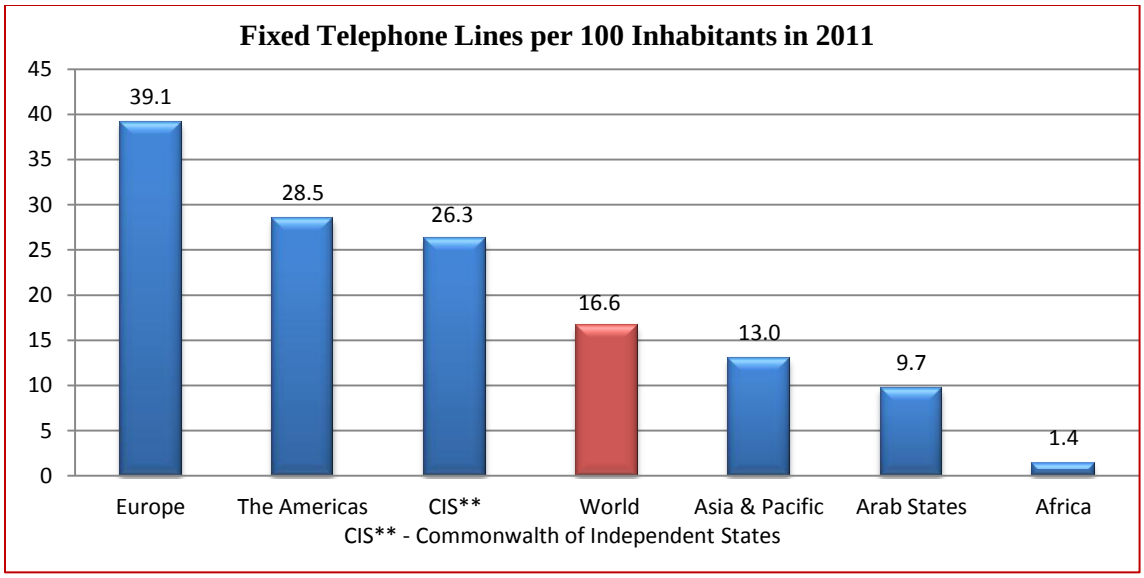


Figure 2 – Fixed Telephone Line Statistics of Different Regions. Source: ITU (2012)

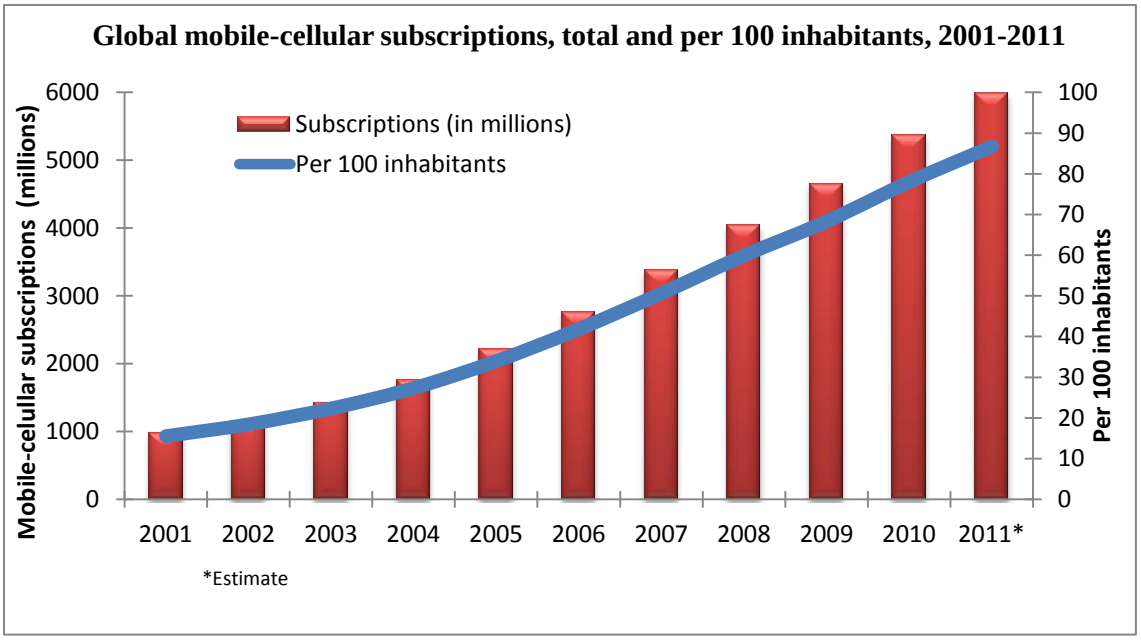


Figure 3 – The Trend of Number of Mobile Subscriptions and its Percentage. Source: ITU (2012)

Though the mobile communication is quite widespread across the world, it is not so widespread as far as its advanced versions are concerned (ITU, 2012). That means 2G or the basic mobile service is almost ubiquitous in the world whereas the 3G and other advanced versions are not that common among the countries, as can be seen in Figure 4.

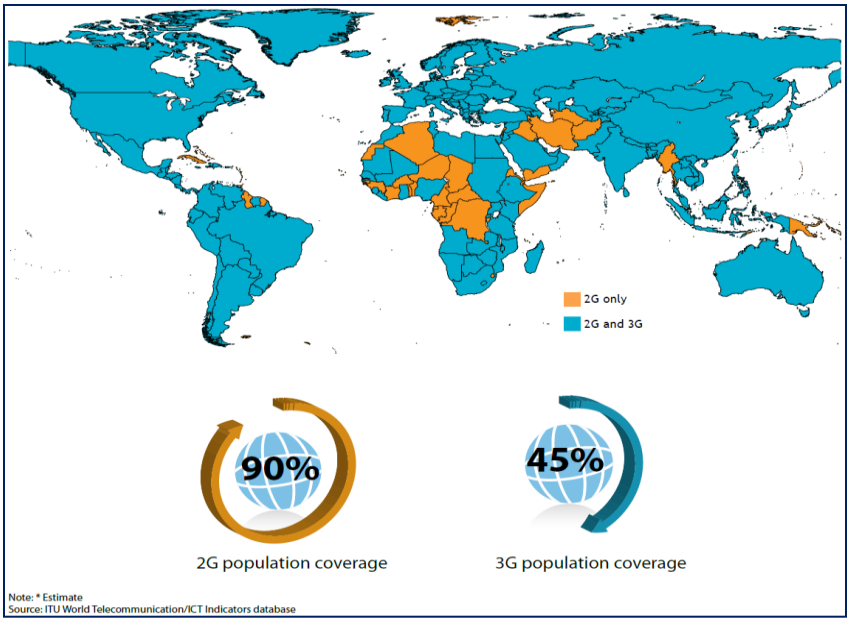


Figure 4 – Global 2G and 3G Presence. Source: ITU (2012)

The total of number of subscribers of global 2G is almost 6 billion and the total of number of 3G subscribers is around 1.2 billion (ITU, 2012). Around 90% of the global population is having the 2G services, but the 3G is far behind in this regard with a total coverage of 45%. In many countries people do not even take the 3G services though they are available because of the cost and the complexities of the system in place (ITU, 2012).

Global internet users are increasing every year. Of course it has to go a long way as the global average of internet users in percentage is 34.7% (ITU, 2012). Europe and the Americas lead in the number of internet users around the world as shown in Figure 5.

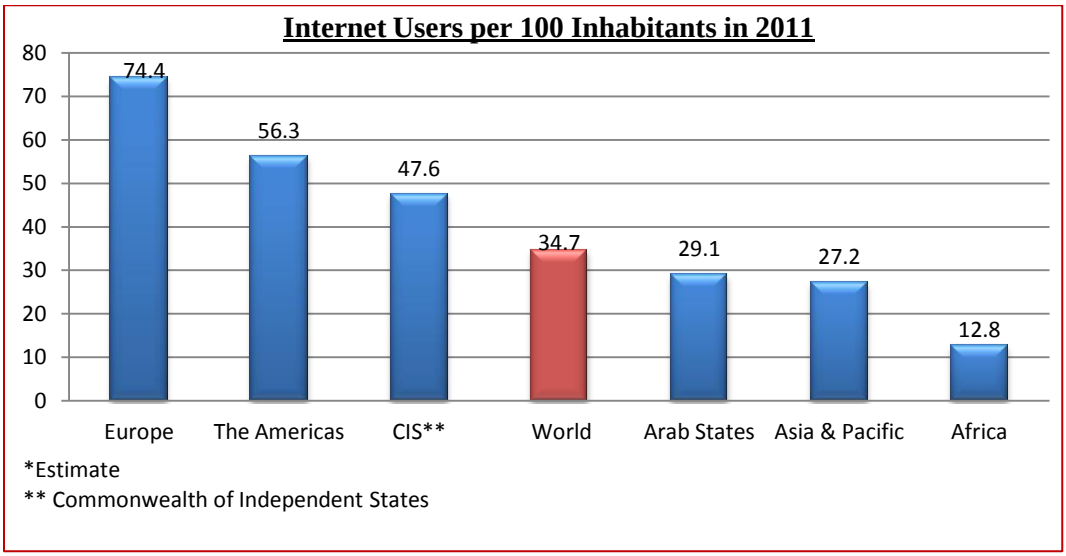


Figure 5 – Percentage of Internet Users in Different Continents/Regions. Source: ITU (2012)

Internet is available in many different forms. Out of them, the broadband wired and wireless format are very popular. The comparison of different forms of communication and internet subscription is shown in Figure 6. Mobile broadband services are rising dramatically in the recent years (ITU, 2010 & 2011).

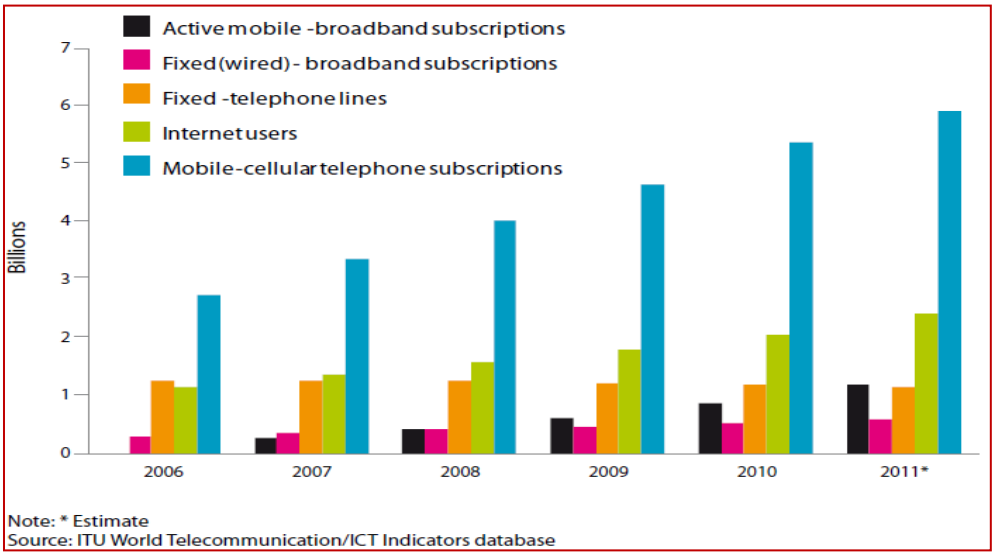


Figure 6 – Global View of Broadband. Source: ITU (2012)

Europe and America have more active internet users than other continents. In case of broadband access they are ahead others too, as it is clear from Figure 7. Advanced versions of fixed broadband such as the optical fiber home access technologies (also known as PON or Passive Optical Network) are very much popular in Europe (Kathuria, 2008).

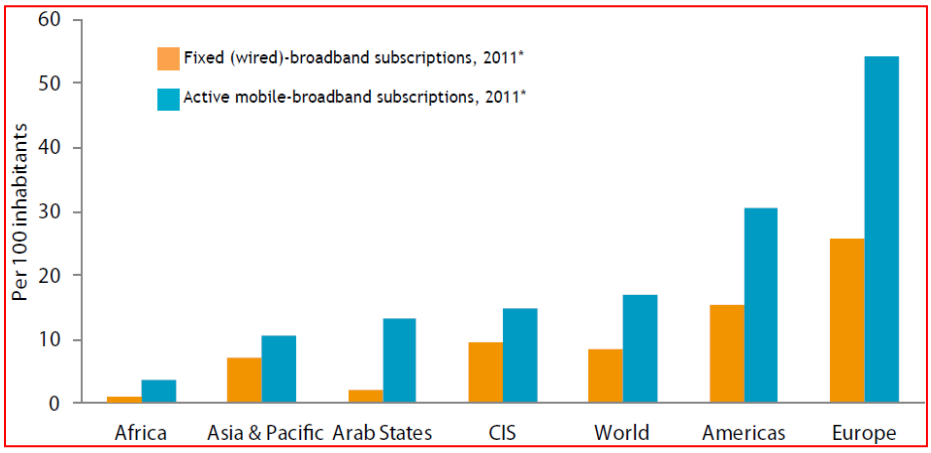


Figure 7 – Europe is the World Leader in the Broadband Market. Source: ITU (2012)

In terms of both wired and wireless broadband Europe is far ahead as the percentage of users are concerned (ITU, 2011 & Kathuria, 2008). The internet speed and other key indicators are also high for Europe than other continents.

1.3 Key Indicators of Europe and the Rest of the World

In this section the basic indicators of telecommunication are presented with their percentages. In this list, the fixed telephone, cellular subscriptions, active mobile broadband subscriptions, internet users, households having a computer of their own, fixed broadband penetration are presented. This statistics includes the numbers from 2005 onwards till 2011.

Table 2 – Key Indicators of Europe and the World. Source: TIA (2011)

Regions	(Total No. in millions)							Per 100 inhabitants						
Fixed telephone lines														
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011***	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011***
Africa	10	11	11	11	12	12	12	1.5	1.5	1.5	1.5	1.6	1.5	1.4
Arab States	30	31	33	35	34	35	35	9.4	9.6	10.1	10.3	9.8	9.8	9.7
Asia & Pacific	569	577	579	567	547	527	511	15.4	15.5	15.4	14.9	14.2	13.6	13.0
CIS	64	69	72	73	73	73	74	23.0	24.7	25.8	26.1	26.3	26.2	26.3
Europe	**273**	**273**	**265**	**261**	**255**	**250**	**242**	**45.5**	**45.3**	**43.7**	**42.9**	**41.6**	**40.7**	**39.1**
The Americas	291	284	278	287	275	274	268	33.0	31.9	30.9	31.5	30.0	29.5	28.5
Mobile cellular subscriptions														
Africa	87	129	174	246	296	360	433	12.4	17.9	23.5	32.4	38.0	45.2	53.0
Arab States	85	126	175	214	264	310	349	27.1	39.3	53.0	63.4	76.5	87.9	96.7
Asia & Pacific	834	1'074	1'398	1'773	2'161	2'690	2'897	22.6	28.8	37.1	46.6	56.2	69.2	73.9
CIS	166	227	267	313	357	376	399	59.7	81.8	96.1	112.5	128.0	134.8	143.0
Europe	**550**	**610**	**677**	**717**	**725**	**724**	**741**	**91.7**	**101.2**	**111.7**	**117.7**	**118.4**	**117.7**	**119.5**
The Americas	459	553	649	741	814	878	969	52.1	62.0	72.1	81.5	88.5	94.5	103.3
Active mobile broadband subscriptions														
Africa	…	…	2	7	11	20	31	…	…	0.2	0.9	1.4	2.5	3.8
Arab States	…	…	3	8	17	36	48	…	…	0.8	2.4	5.0	10.2	13.3
Asia & Pacific	…	…	116	164	205	289	421	…	…	3.1	4.3	5.3	7.4	10.7
CIS	…	…	1	2	20	31	42	…	…	0.2	0.8	7.2	11.2	14.9
Europe	**…**	**…**	**89**	**148**	**200**	**254**	**336**	**…**	**…**	**14.7**	**24.2**	**32.6**	**41.3**	**54.1**
The Americas	…	…	58	93	149	224	286	…	…	6.4	10.3	16.2	24.1	30.5
Internet users														
Africa	17	24	29	48	74	90	105	2.4	3.3	4.0	6.4	9.5	11.3	12.8
Arab States	25	35	46	59	73	85	105	8.1	10.9	14.0	17.6	21.2	24.1	29.1
Asia & Pacific	344	395	508	627	741	875	1'066	9.3	10.6	13.5	16.5	19.3	22.5	27.2
CIS	28	35	47	60	74	106	133	10.2	12.6	16.8	21.4	26.5	38.2	47.6
Europe	**278**	**300**	**340**	**367**	**387**	**412**	**461**	**46.3**	**49.8**	**56.1**	**60.2**	**63.2**	**66.9**	**74.4**

The Americas	316	346	385	402	424	462	529	35.9	38.8	42.7	44.2	46.1	49.7	56.3
Fixed (wired) broadband subscriptions														
Africa	-	-	1	1	1	1	1	-	0.1	0.1	0.1	0.1	0.2	0.2
Arab States	1	2	3	4	6	7	8	0.3	0.5	0.9	1.3	1.7	1.9	2.2
Asia & Pacific	80	103	126	151	181	212	243	2.2	2.8	3.3	4.0	4.7	5.5	6.2
CIS	2	4	6	12	17	23	27	0.6	1.3	2.3	4.5	6.1	8.3	9.6
Europe	**66**	**89**	**112**	**126**	**137**	**146**	**160**	**10.9**	**14.8**	**18.4**	**20.7**	**22.4**	**23.8**	**25.8**
The Americas	66	81	99	113	124	131	145	7.5	9.1	11.0	12.4	13.5	14.1	15.5
Households with a computer														
Africa	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0	3.3	3.8	5.6	6.3	7.1	7.9
Arab States	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14.9	17.4	19.7	22.7	25.8	28.0	30.7
Asia & Pacific	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.1	21.3	22.6	24.4	26.2	26.9	28.5
CIS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.8	12.2	24.6	31.8	36.8	39.2	43.8
Europe	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**52.8**	**56.3**	**61.2**	**65.1**	**68.5**	**71.9**	**75.5**
The Americas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40.9	42.8	45.5	48.1	49.3	51.5	53.6
Households with Internet access at home														
Africa	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0	1.3	1.7	2.6	3.4	4.3	5.7
Arab States	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.3	10.9	12.9	14.7	18.2	21.7	26.1
Asia & Pacific	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11.8	13.5	15.8	17.0	18.5	20.5	24.9
CIS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3	6.7	16.8	20.7	27.0	32.3	38.5
Europe	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**42.0**	**46.4**	**51.7**	**57.7**	**62.4**	**67.8**	**72.2**
The Americas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	32.7	34.5	36.8	38.9	42.0	45.0	49.7

1.4 Telecommunications Market Shares

As it has been observed in previous sections, there are a lot of differences in the numbers and indicators of the developed and developing countries. In this section this diversity and indicators are observed more closely.

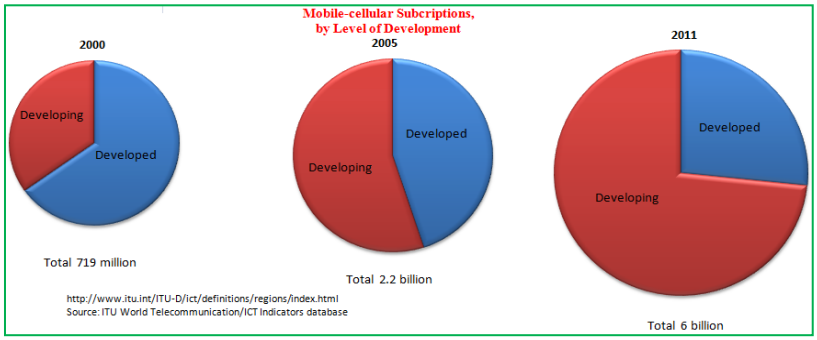


Figure 8 – Telecom Share of Developed and Developing Countries. Source: ITU (2012)

Bandwidth is the collection of frequencies used for telecommunications. It is very precious in the communication market, because it is a limited resource. Demands for bandwidth in the developed and developing world have exponential trends as shown in Figure 9. The reason is the growth in internet popularity and the proliferation of different kinds of networks and services (ITU, 2012).

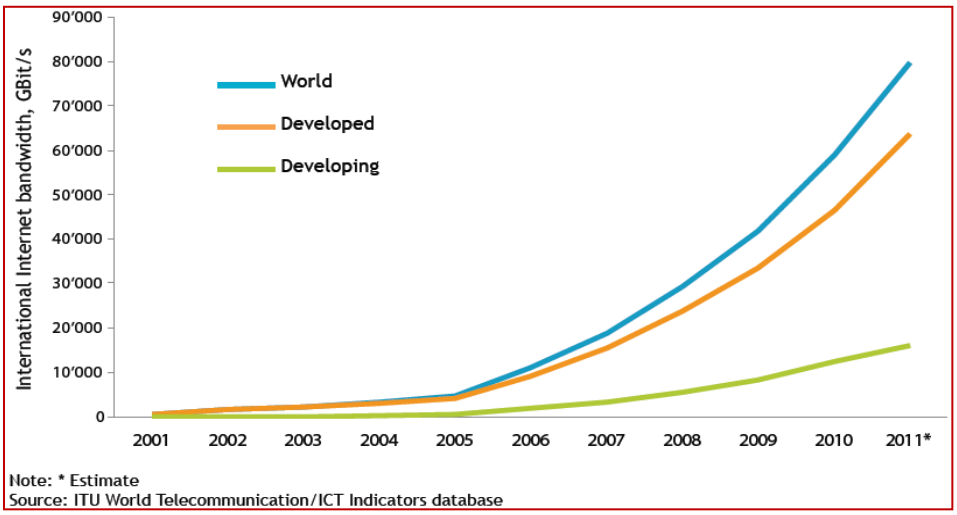


Figure 9 – International Internet Bandwidth. Source: ITU (2012)

Power used by the telecommunication networks was globally negligible until the 1990s (ITU, 2010). But since the arrival of internet and other broadband and high definition services transmission power used globally has increased to a significant level. It is now almost 1% of the global power consumption. The trend for broadband subscription has a positive growth rate over the decade from 2001 to 2011. However, developed countries have a much larger growth than the developing countries, as shown in Figure 10. Overall global growth rate in this sector is also quite large.

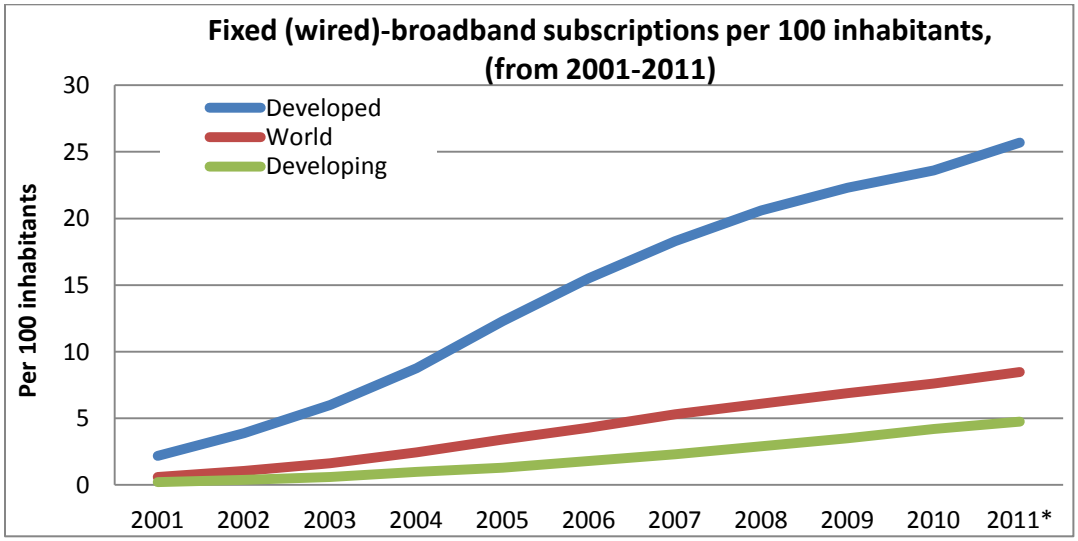


Figure 10 – Fixed Broadband in the World. Source: ITU (2012)

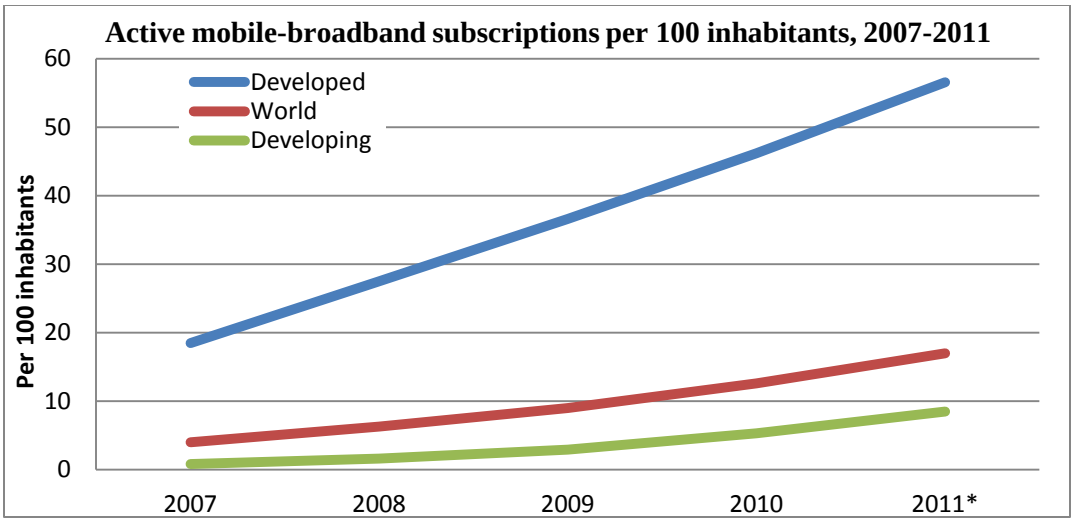


Figure 11 – Percentage of Mobile Broadband Subscription. Source: ITU (2012)

1.5 Bandwidth Demand per User in the Internet

Bandwidth demand per user is growing at a rate higher than ever before. In Europe the per capita bandwidth demand per internet user is approaching 88 Kbps (ITU, 2012). The world average is around 38Kbps and surprisingly the average demands of other parts of the world are below this.

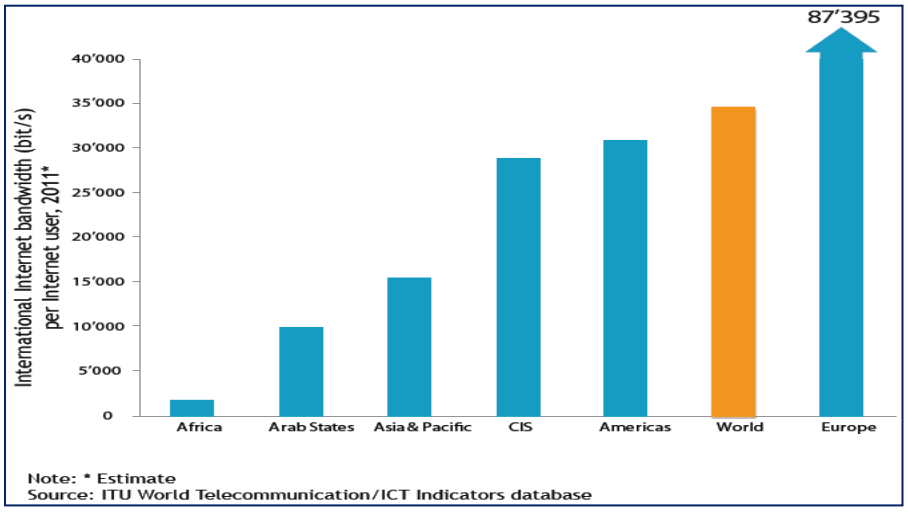


Figure 12 – Internet Bandwidth per head per user. Source: ITU (2012)

Internet in the access area has become cheaper. The price per bit of information has come down significantly. The speed and other key indicators have gone up magnificently. These improvements have provided the service providers a great hope to serve each and every household with broadband. When it comes to the telecommunications in the households, developing countries have to go a long way. According to the UN and ITU reports there are 1.8 billion households in the world in 2011. As shown in Figure 13, only 700 million households have a PC and 600 million households have internet facilities. Most of these figures are due to the developed countries.

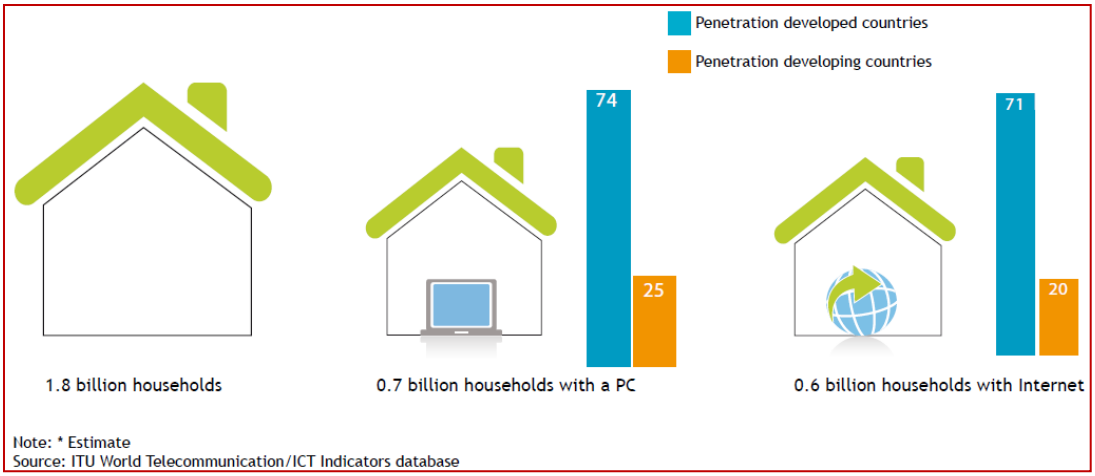


Figure 13 – Internet in Houses. Source: ITU (2012)

1.6 Top Broadband Economies of the World

Broadband access and economy are very much tied together in this world of information. That is why the developed countries have advanced networks at high speeds. There are many broadband technologies available today and thus the penetration is remarkable as shown in Table 3.

Table 3 – Top Broadband Economies in 2011. Source: ITU (Wireless Intelligence, 2011)

Top Broadband Economies (Early 2011)			
Economy	**Fixed Broadband %**	**Economy**	**Active Mobile Broadband %**
Netherlands	38.1	Korea(Rep.)	91.0
Switzerland	37.9	Japan	87.8
Denmark	37.7	Sweden	84.0
Korea (Rep.)	35.7	Australia	82.7
Norway	35.3	Finland	78.1
Iceland	34.1	Hog Kong	74.5
France	33.9	Portugal	72.5
Luxembourg	32.2	Luxembourg	72.1
Sweden	31.8	Singapore	69.7
Germany	31.7	Austria	67.4
UK	31.6	New Zealand	66.2
Belgium	31.5	Kuwait	63.5
Hong Kong	29.9	Israil	62.2
Canada	29.8	Brunei	61.4
Finland	28.6	Cyprus	61.3
USA	27.6	Italy	59.4
Malta	27.5	UAE	58.4
Japan	26.9	Greece	58.3
Estonia	25.1	Saudi Arabia	57.8
Singapore	24.9	Macao	56.1
New Zealand	24.9	UK	56.0
Slovenia	24.2	Spain	55.7
Australia	24.2	Denmark	54.7
Macao	24.2	USA	54
Austria	23.9	Ireland	47.3

Table 4 – Telecommunications Industry Global and USA Overview. Source: Plunkett Research (2011)

	Number	Unit	Year	Source
U.S. Telecommunications Industry Revenues	985.0	Bil. US$	2010	TIA
Worldwide Telecommunications Industry Revenues	3.1	Tril. US$	2010	TIA
Landline				
Households with Wired Subscribership, U.S.	113.5	Mil.	Jul-10	FCC
Landline Revenue, U.S.	286.6	Bil. US$	2010	TIA
Global Landline Subscribers	1.18	Bil.	2010	ITU
Landlines, Compound Annual Growth Rate 2003-2008, Worldwide	2.39	%	2005-10	ITU
Global Landlines per 100 Population	17.2	per 100	2010	ITU
Wireless				
Annualized Total Wireless Service Revenues, U.S.	159.9	Bil. US$	2010	CTIA
Annualized Wireless Data Revenues, U.S.	50.1	Bil. US$	2010	CTIA
Number of Wireless Connections, U.S.	302.9	Mil.	Dec-10	CTIA
Market Penetration, U.S.	96	%	Dec-10	CTIA
Portion of Mobile Consumers with a Smart Phone, U.S.	31	%	Dec-10	Nielsen
Cellular & Other Wireless Revenue, U.S.	184.4	Bil. US$	2009	Census
Mobile Advertising Revenue, North America, 2010	304.3	Mil. US$	2010	Gartner
Mobile Advertising Revenue, North America, 2011**	701.7	Mil. US$	2011	Gartner
Wi-Fi & Cellular Device Shipments, U.S.	247	Mil. Units	2010	In-Stat
Mobile Cellular Service Subscriptions, Worldwide*	5.3	Bil.	Mar-11	LM Ericsson
Individual Subscribers, Worldwide**	4.2	Bil.	Jun-11	PRE
Mobile Broadband (3G) Subscribers, Worldwide	940	Mil.	2010	ITU
SMS Messages Sent, Worldwide	6.1	Tril.	2010	ITU
Handset Sales 2010, Worldwide	1.6	Bil. Units	2010	Gartner
2010 Mobile Advertising Revenue, Worldwide	1.6	Bil. US$	2010	Gartner
Mobile Application Downloads, Worldwide **	17.7	Bil.	2011	Gartner
Mobile Application Revenue, Worldwide (Includes Purchases & Ad Revenue)**	15.1	Bil. US$	2011	Gartner
2010 Smart Phone Sales, Worldwide	296.6	Mil. Units	2010	Gartner
Equipment Revenue				
U.S. Exports of Telecommunications Equipment	28.1	Bil. US$	2010	ITA
U.S. Imports of Telecommunications Equipment	80.8	Bil. US$	2010	ITA
TV, Cable & Internet				
Number of High Speed Internet Lines, U.S. (including mobile wireless)	200	Mil.	Dec-10	PRE
Number of High Speed Internet Lines, U.S. (not including mobile wireless)	100	Mil.	Dec-10	PRE
Number of Global Internet Users	2	Bil.	2010	IWS
Monthly Global Internet Traffic	20,151	PetaBytes	2010	Cisco VNI
Projected Monthly Global Internet Traffic	80,456	PetaBytes	2015	Cisco VNI
Number of Basic Cable TV Subscribers, U.S.	59.8	Mil.	Dec-10	SNL Kagan
Number of Satellite TV Subscribers, U.S.	33.6	Mil.	Q1 2010	The BRIDGE
Employment				
Employment in the Telecommunications Industry, U.S.	899.7	Thous.	Dec-10	BLS

1.7 The Reasons behind the Strategic Shifts

Though we have gone through varieties of statistics of the world´s telecom industry the exact reasons behind the strategic changes in the telecom industry are not very clear. Of course some of the presented statistics indicate a few points in this regard. In this section all the key motivating factors and their intentions are described with the supporting statistics collected from different reliable sources. More points with detailed reasons are given in Chapter 2.

1.7.1 *Market Penetration and Growth Rate*

In Figure 14 the evolution of different communication segments are presented. It also shows more critical aspects of these trends. The percentage of annual growth tells more about the shifts in the telecom industry. The fixed broadband annual growth rate is monotonically declining. In 2000-01 its growth rate was around 130%, but in 2009-10 it came down to around 10%. Fixed telephone lines have a negative growth rate. Mobile broadband has a high growth rate of 60%. These growth rates clearly show the future perspective of different telecom sectors.

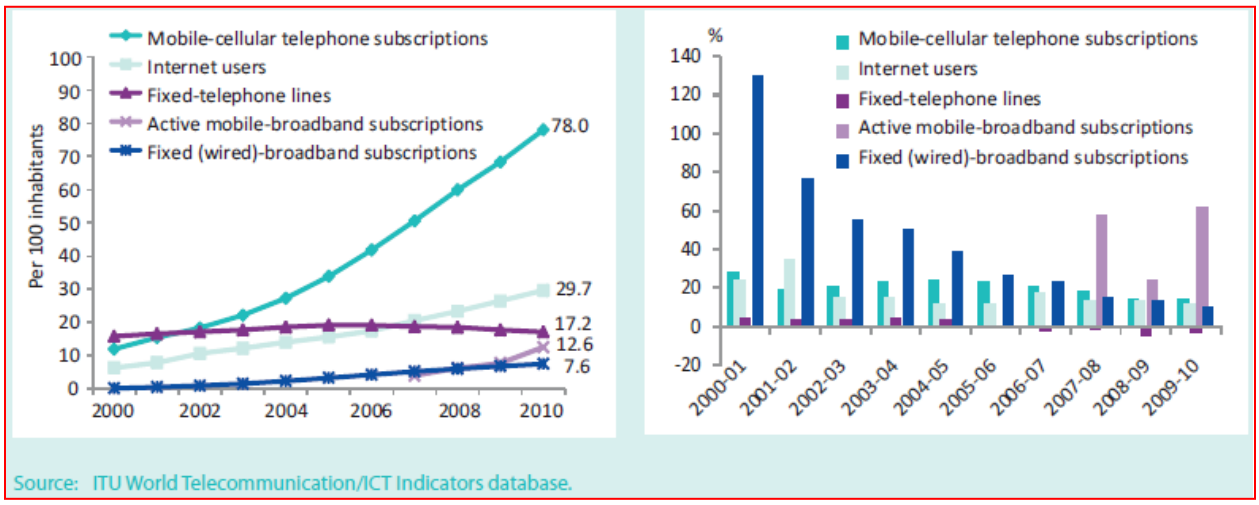


Figure 14 – Telecom trend and their Growth Rate. Source: ITU (2012)

1.7.2. *Mobile Cellular Market*

The mobile cellular market has a rising global trend. But when it comes to the segregation of the market between the developed and the developing world, the eyes open widely for the strategists. In the developed countries the market is almost saturated and the growth rate is approaching zero. But in developing countries, it is still above 20%, which is quite huge. As it has been seen in the previous sections, the developing countries out-number the developed countries when it comes to the number of the mobile subscribers.

The developing countries are the key to the telecom growth in the world today. The markets of developed countries are almost saturated and the recent economic downturn has further pushed the growth down. So many European telecom operators are heading for developing countries. These growth trends are clear from Figure 15.

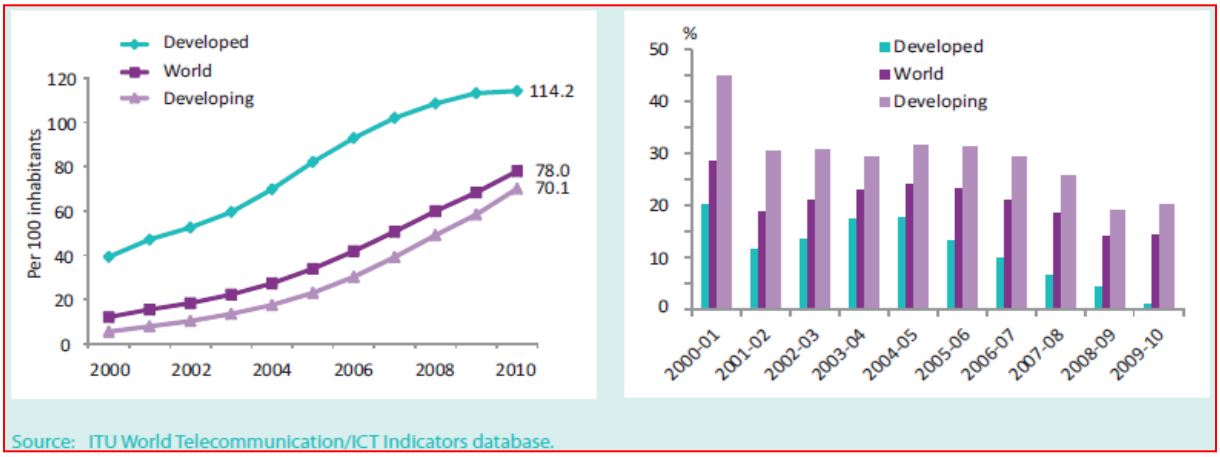


Figure 15 – Percentage of Teledensity and its Growth Rate. Source: ITU (2012)

1.7.3 *Fixed Broadband Market*

In case of fixed broadband market the trends are very much similar. But the growth rate is not that staggering like that of the mobile communication and mobile broadband services. The fixed broadband market trends are shown in Figure 16.

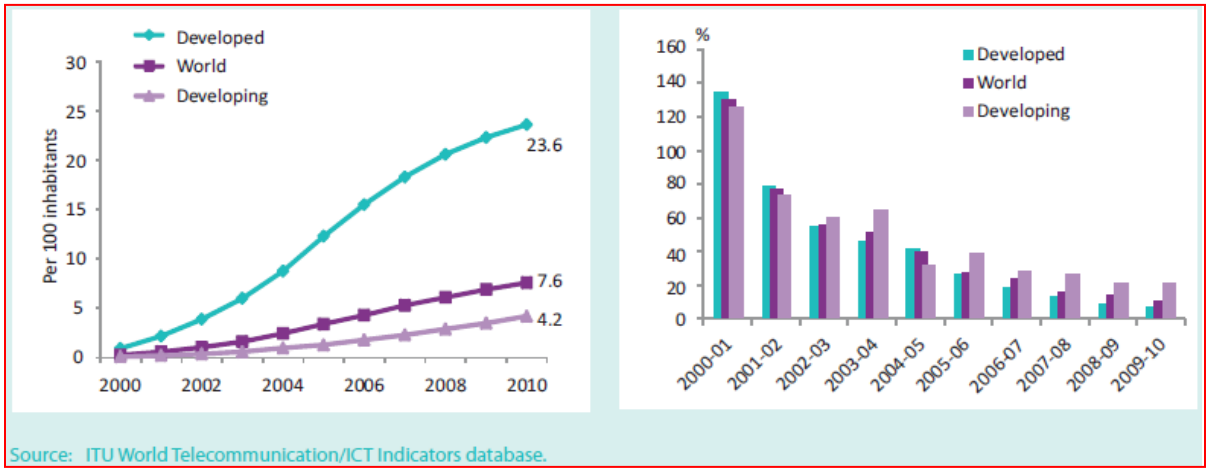


Figure 16 – World Broadband Subscriptions and Growth Rate. Source: ITU (2012)

1.7.4 *Mobile Broadband Market*

Mobile broadband market is an emerging area. It has a strong trend of growth. In both the developing and developed countries it is accepted. But the price and complexity factors are the main obstacles in the growth of this market. Despite these obstacles the growth trends are really staggering. Mobile broadband market consists of advanced cellular services such as 3G, 4G and other LTE technologies. WiMAX and WiFi also form a segment of this market. Overall trends of mobile broadband are shown in Figure 17.

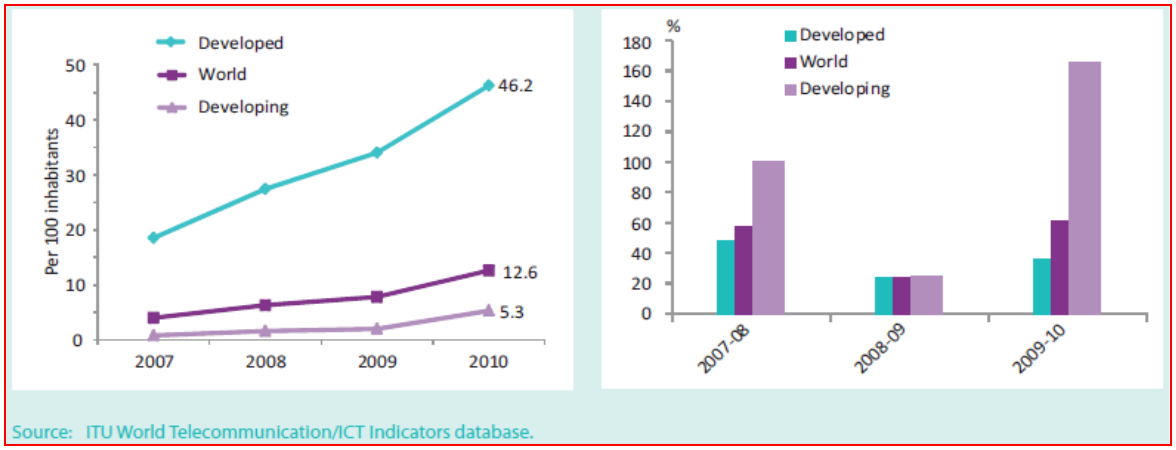


Figure 17 – Global Mobile Broadband Market. Source: ITU (2012)

1.7.5 *Internet Users Market*

Internet plays the most important role in the information generation, propagation, broadcasting and use of data. It is the main motivation behind the information revolution. The growth trends for the internet and its enabled services are quite high, which can be observed from Figure 18. The markets of developing countries are growing almost the rate of the markets of the developed countries.

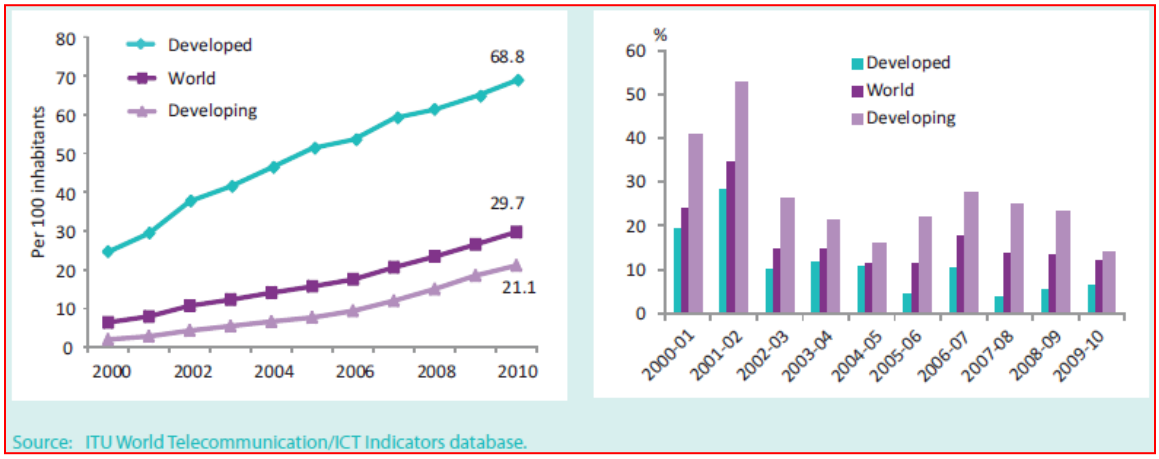


Figure 18 – Total Internet Users and their Growth Trend. Source: ITU (2012)

Overall, the markets of developed OECD countries are much saturated than the rest of the world. That is the reason why European telecom operators are looking for the new markets in the developing countries.

Chapter 2
Factors and Indicators of Strategic Changes of Big Companies of Europe

In this chapter, main factors and indicators of strategic changes of European Operators are studied. For this purpose ten largest telecom companies of Europe have been analyzed. In this analysis main companies of Western Europe and Russia are taken into account. These companies are among the market leaders in their home country and some are also big players in Europe and the world. Some of these companies are public sector companies with the government as the main stakeholder and others are completely private companies. Some of these companies are specialists of wireless communication and others have both wireless and wired networks. Some are even the mainstream service providers of several countries. All these aspects are considered to study the markets and their effects over the telecom economy and overall business sectors.

2.1 Analysis of Big Companies of Europe

Ten big telecom companies of Europe are studied from the strategic shifts point of views. These companies are among the biggest telecom players in the world and their combined revenue is more than 30% of the global telecom revenue of the telecom operator's market according to the 2010 reports of ITU and Eurostat. These companies have played important roles in the global telecom changes since their establishments. These companies are:

1. Vodafone
2. Telefónica
3. France Telecom
4. Deutsche Telecom
5. British Telecom
6. Telecom Italia
7. Telenor
8. TeliaSonera
9. MTS (Sistema)
10. Portugal Telecom

Vodafone is the largest mobile telecom company in the world by revenue and second largest by number of subscribers. It was founded in 1984 and switched on in 1985 and then acquired several companies to enlarge its operation (Vodafone.co.uk, 2010). Now it operates in 30 countries and in further 40 countries it has partnerships with other companies (Vodafone, 2011).

Telefónica is the largest as well as the incumbent Spanish Telecom Company. It is the third largest wireless service provider in Europe (Telefónica, 2011). It was founded in the year 1924; it was formerly a public owned company. But Spanish government privatized it in 1994 in the interest of the company. It is having a dominant share in the market in the telecom area.

France Telecom is one of the largest in the world and third largest telecom Sector Company in Europe, having located in Paris, France. It was started in 1988. It provides broadband services, fixed wireline and wireless services in France and several other countries in Europe and outside Europe (France Telecom, 2011).

Deutsche Telekom is the largest telecom company of Europe. It was formerly a state owned company situated in Bonn in Germany; it became privatized and incorporated in 1996. Their total revenue was 62.42 billion euro in 2010 (Deutsche Telecom, 2011). It has operations in Europe and North America.

British Telecom shortly known as BT is one of the largest as well as oldest telecommunication companies in the world. Having headquartered in London, it has several services and operations in UK, Europe, North America and some other countries. It also supplies services and infrastructures to Government sectors and British Armed forces (British Telecom, 2011).

Telecom Italia is one the leading and forefront companies in the post-privatized Europe. It was started in 1994.It is popular for its network management expertise and its geographically diversified portfolio of telecom assets. It had network operations mainly in Europe and Latin America.TIM is a subsidiary of it (Telecom Italia, 2011).

Telenor is the largest telecom service provider in Norway. It has its operation mainly in Nordic countries and Eastern Europe. But since last five years it has taken markets in Asia and growing quite fast. It is providing both cellular and broadband services to its customers. It has 203 million subscribers in total (Telenor, 2011).

TeliaSonera is a telephone company in Sweden and Finland. The company has operations in other countries in Northern and Eastern Europe, Central Asia and Spain. It has in total more than 150 million mobile customers (Telia Sonera, 2010). It is headquartered in Stockholm and its stocks are traded on the Stockholm and Helsinki stock exchanges. It is also a fast growing company.

MTS Systema is a Russian conglomerate with a large market capitalization in Russia and other USSR countries. It is also present in 24 other countries (MTS, 2011). It is the largest telecom company of Russia and also one of the fast growing companies of the world.

Portugal Telecom or PT was incorporated in 1994 and became a major European telecom operator. It is the largest telecomm company in Portugal, but it operates Brazil and other Portuguese speaking countries like Angola and Guinea-Bissau (Portugal Telecom, 2011). It has a *de facto* monopoly in fixed and broadband communications in Portugal.

Similarly, for the Indian market, 10 largest operators have been chosen. They are also huge companies with millions of customers and revenues. Some of them are also global players like the European companies presented above. Those companies and their analysis are in chapter 6.

In this chapter the main indicators of the European companies are presented which were instrumental in changing the strategic moves. They are both economic and technological in nature. In addition to that social and globalization factors too played big roles in changing the strategies. Market nature and investment opportunities attracted many companies to Asia and Africa which were less attractive in the 1980s. Here, their markets and positions in terms of revenue and other market indicators are analyzed. Present market positions of these companies are also described briefly.

Table 5 – Area of Operation of Ten European Companies in 2011

Company	**Area of Operation**
Deutsche Telecom:	Germany is the home country of Deutsche Telecom. But it operates in most part of the Western Europe and North America.
Telefónica:	Spain is the home of Telefónica; but it operates in the whole Latin America and USA. In Europe it has a strong position. Also plans to enter Asia
Vodafone:	Vodafone operates in 70 countries in the world. It is the most globalised telecom operator in the world now.
France Telecom:	France telecom has a global presence in Europe, Africa, Asia, America and Australia. But most of revenues come from Europe itself.
TIM:	Telecom Italia is one of the largest telecom companies of Europe with its big presence in the southern Europe. But it plays big roles in Latin America.
British Telecom:	It is a traditional public company of the British government. It plays important role in national telecom infrastructure building and innovation.
Telea Sonera:	It is the largest Telecom operator of Sweden. But recently it has expanded into middle east and Africa.
Telenor:	It is the largest Telecom operator of Norway. Recently it has expanded into Asia, Middle-east and Africa.
MTS:	This is a Russian giant with its international presence in Europe and Asia.
PT:	It is the national player of Portugal with its operations in its former colonies.

2.2 Fluctuation of Revenues

Fluctuation of revenue is a key factor to change the strategy. In case of a rising trend of revenue the companies are not bothered much. However, the decrease of sales and revenues force them to adapt new strategies. Here the annual revenue of these big companies of 2011 is compared with that of 2001. Table 6 shows the revenue of 2010-11 in the decreasing order of annual revenue. The relative revenues are provided in percentages (rounded to the nearest integer).

Table 6 – Net Revenues of the European Companies in 2011

	Telecom Company	Revenue (in Billion €)	Relative Revenue (rounded %)
1	**Deutse Telecom**	**62.40**	**20**
2	**Telefónica**	**60.74**	**20**
3	**Vodafone**	**53.37**	**17**
4	**France Telecom**	**45.50**	**15**
5	**TIM**	**27.57**	**9**
6	**British Telecom**	**25.09**	**8**
7	**Telea Sonera**	**12.14**	**4**
8	**Telenor**	**11.03**	**3**
9	**MTS**	**8.70**	**3**
10	**PT**	**3.74**	**1**
Total for 10 companies		310.28	100

Source: 2011 Annual reports of the companies (Currency exchange rates are from www.xe.com)

The figures of the last decade are necessary to know the changes the companies have gone through in the last ten years. In this section these data are provided and then compared with the figures of 2011. In Table 7, the net revenues of the ten companies are shown in euro as well as in relative terms. The net revenues of these 10 companies were 250.62 billion euro in 2001, which increased to 310.28 billion euro in 2011. The net increase is 59.66 billion euro, which is 23.8% rise with respect to the revenue of 2001. The average annual growth of revenue over the decade is 2.38.

Table 7 – Revenue of Ten European Companies in 2001

	Telecom Company	Revenue (in Billion €)	Relative Revenue (rounded %)
1	**Deutchse Telecom**	**48.3**	**19**
2	**Telefónica**	**31.05**	**13**
3	**Vodafone**	**34.88**	**14**
4	**France Telecom**	**43**	**17**
5	**TIM**	**30.82**	**12**
6	**British Telecom**	**33.26**	**13**
7	**Telea Sonera**	**6.32**	**3**
8	**Telenor**	**5.76**	**2**
9	**MTS**	**12.32**	**5**
10	**PT**	**4.91**	**2**
Total for 10 companies		250.62	100

Source: 2001 Annual reports of the companies (Currency exchange rates are from www.xe.com)

Relative standing of main European companies in 2001 was very much different from that of 2011. It is clear from Table 7 that France telecom was the clear runner up in 2001. It had larger market share than Vodafone and Telefónica. In 2011, that has changed. There are several other changes as well. In order to have a clear picture of revenue growth and changes in turnovers, the direct comparison is shown in Figure 19.

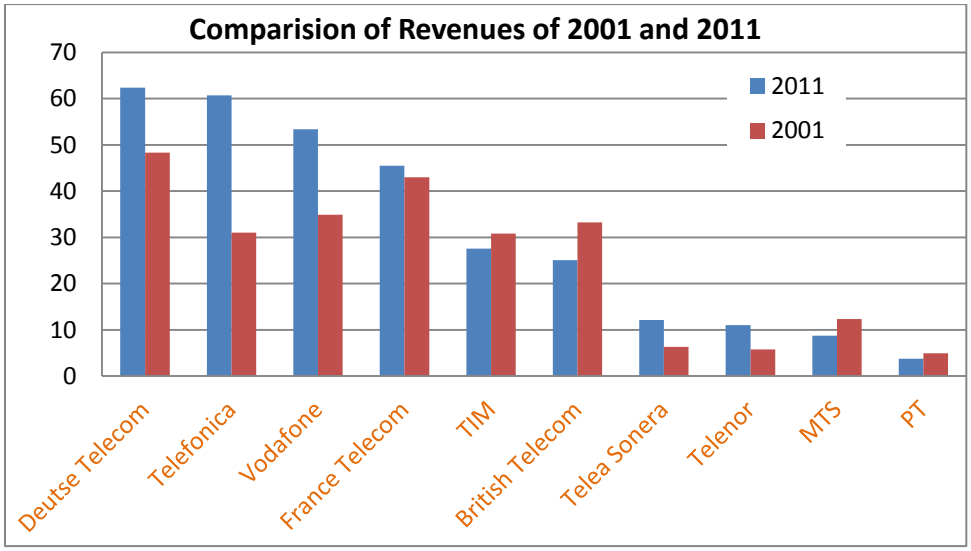


Figure 19 – Comparison of Revenues of 2011 and 2001

The growth rates of these 10 big companies are shown in Figure 20. The calculation is done with respect to the revenue of 2001. The formula used for the calculations is shown below.

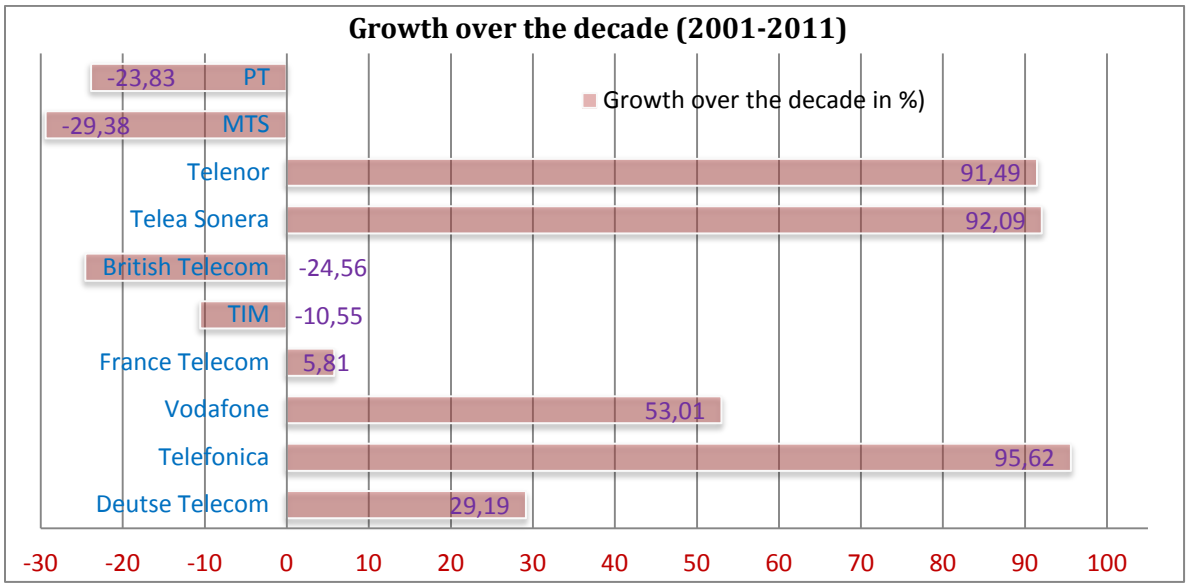


Figure 20 – Growth Rates of Individual companies over the decade (From 2001 to 2011)

Surprisingly, four companies have smaller revenues in 2011 than 2001. Some companies have gained significantly whereas others have struggled to maintain their positions. The story is also very similar for the EBITDA, net profits and other financial indicators.

2.3 Technological Factors

Technological changes are big drivers of the change in corporate strategies. In the telecom sector their role is even more important and critical. Technology changes the communication technologies in a pervasive way. Between 2001 and 2011 there are so many changes in the global telecom technologies. 3G, WiMAX, 4G and other LTE technologies are quite common in Europe now. But in 2001, only 2G and 2.5G were the main mobile technologies. 3G was the new entrant then and the qualities of 3G services were too poor. In the wired communication sector too there are a lot of changes. The landscape seems to be very much different now when compared with 2001. There was no perspective of optical fibers in the access area in 2001. DSL technologies too were very much limited. Optical fiber in the access area and the depth of DSL technologies are flourishing now. All the new technologies force the companies to renew their strategies and policies.

2.4 Competition and Globalization Factors

Competition is fierce in European telecom market. There are several players in every country to take the market in their favor. The true globalization started in Europe and thus Europe is far ahead of others in this aspect. Globalization provides a ground for tough competition. All the big players of European telecom are having some roles of globalization and internationalization. Accordingly, there are several strategic changes in the European market. Several companies have gone for joint operation or co-operation, Many have gone for merging, some have acquired the small companies for strategic advantages. These details are provided in the subsequent chanters.

2.5 Market Dynamics

Market dynamics plays important roles in changing the course and trends of a company. Every market has its own dynamics and the companies have to cope with that. For example European market has a completely different dynamics than the Indian market. So, when an European company enter the Indian market is has to changes its strategies to cope with the markets and vice versa. The effect of recession also changes the dynamics and the companies change their strategies as well to cope with the difficulties.

2.6 Social Factors

Social factors are there in the changes of strategies. Social factors affect the marketing and advertising of each and every company. In the international landscape it is very important to take the social factors into the strategic framework. All the international companies are doing that very carefully.

Besides these main factors there are other individual issues of the companies and markets which force for strategic changes. Some of these issues are addressed in the following chapters.

Chapter 3
Changes in Internal and External Strategies of European Telecom Companies

It has been observed in the chapter 2 that the telecom scenario is very much different in 2011 than in the early years of 2000s. With the changing numbers and statistics, the strategies need to be different as well. In fact they have been changed to a large extent. Some of the companies have gone beyond their perimeter to a really global landscape. Some of them have done the reverse by selling their shares to others and leaving the operations in some specific countries. Some of them have gone for merging and joint operations in some countries. Some have acquired the small and weak companies for strategic advantages and larger market. In this chapter the external and internal issues of strategic moves of the ten chosen companies are analyzed. All the issues related to external and internal factors are presented in this chapter. The summary of the changes are provided briefly in chapter 5. The different reasons and segments of strategic changes are shown in Figure 21. It explains the causes and effects of strategic changes. In this model, central management represents the core team of upper management consisting of the board of governors, chief executives and department/division heads who frame strategies for the company.

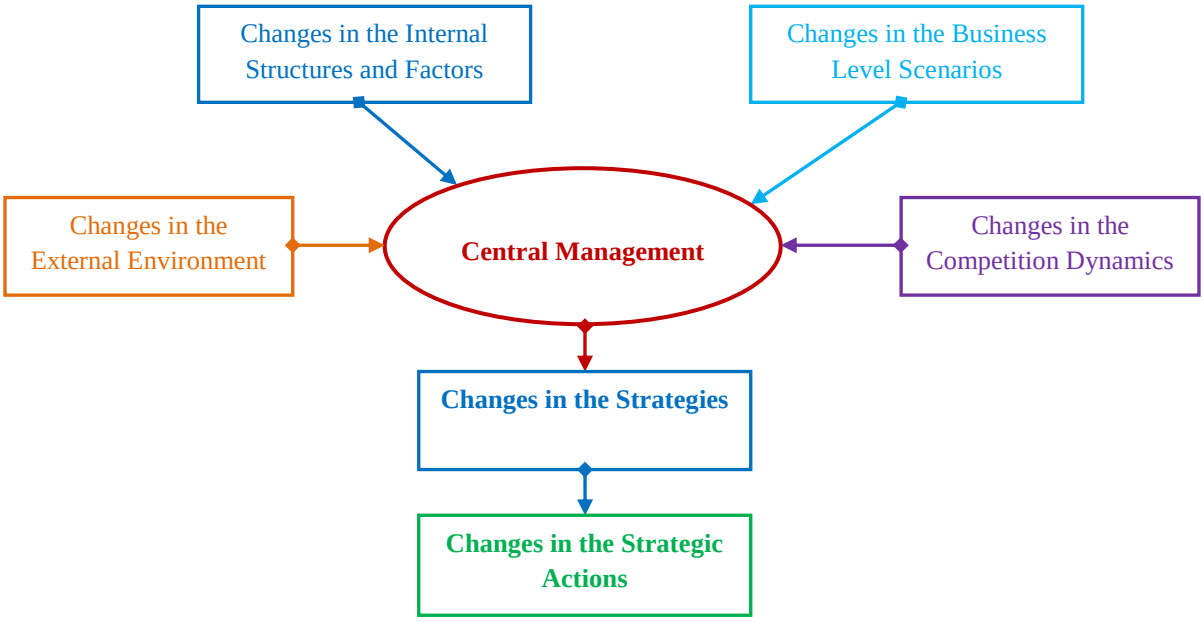


Figure 21 – Model explaining the cause and effect of strategic changes in the telecom companies

3.1 External Strategic Changes in the main European companies

External factors are of different types and affect the companies in different ways. In this part, the external factors are classified into different segments, which affect the company in some ways. These effects are presented in terms of different external segments shown below.

3.1.1 *Strategic Changes due to Demographic Reasons*

Demographic reasons for a company include the demographic factors of its customers and market size. In this case of telecom operators, the demographics include the population size of a country or market, the age of the population, the geographic distribution of customers, tele-density, penetration percentage, distribution of age groups, ethnic background and income distribution etc. These factors are handled by telecom operators through strategic changes.

All the telecom operators try to optimize their customer base. That is done through market specific strategies. For example, the price of voice, video and text all have come down since the 1990s. This change is found in all the companies (Gerrard, 1998). It is also true that all of them did not get the proportionate returns for these changes, which are clear from the numbers presented in the comparison figures of the companies.

3.1.2 *Strategic Changes due to the Economic Reasons*

This segment is the direct reflection of the competition the company faces in a certain environment. Companies plan for their growth. For this they prefer stable and safe markets. This segment is very much important for the telecom companies. That is why; most of the companies try to stay out of failed nations. They also pull out of the unstable and unpredictable markets instead of making looses. Companies under difficult situations try to be merged with the market leaders to save the further decline (Hitt, 2009). This factor is also a part of the policies for foreign investment. The growing markets of Asia and South America attract a lot of European telecom companies to invest there.

Under this segment there are several examples. Portugal Telecom, under the leadership of Zeinal Bava pulled out of its operations in Brazil in Vivo. Similarly, Cable and Wireless was acquired by Vodafone in 2012.

3.1.3 *Strategic Changes due to the Political Reasons*

Policy issues affect the business regulations of a country or market. There is not much difference in the policies of the countries in the European Union except for a few. The regulations of telecommunication of different countries of Europe are also very much similar. However when the companies operate outside Europe these issues become obstacles.

For example, there are legal cases against Vodafone in USA for which it cannot use its Vodafone brand in its joint venture with Verizon wireless (Vodafone, 2010). Thus Vodafone is changing its strategies for its USA operations. Similarly there are various political and legal issues with the companies working internationally.

3.1.4 *Strategic Changes due to the Sociocultural Reasons*

Sociocultural issues are fundamental to the businesses which deal with the customers at the ground level. Telecom sector is one such area where companies deal with customers directly. The home companies get the benefits of home culture in which they are a part and can easily

understand the issues of customer emotions and values. However, for the foreign companies it is quite difficult.

In telecom sector it happens with many companies when they enter a foreign market. That is why many companies prefer to have a local partner in foreign countries. It reduces the risk of misunderstanding and cultural differences. Many companies prefer to employ the local workforce to minimize such issues. Almost all the successful companies are having such strategies in foreign markets.

3.1.5 *Strategic Changes due to the Technological Segment*

This issue has been addressed in the previous chapter as one of the major forces for strategy formation in the telecom industry. Technology in telecommunication is the main driver and thus the companies must try to changes their technological strategies at the appropriate juncture of time (Anwar, 2003).

All the successful companies are using these strategic changes when they have the right technology. Innovation is the fundamental need to drive this strategy. T-mobile, Telefónica, BT, Portugal telecom all are having innovation as a major strategy these days.

3.2 Strategic Focus of the Companies towards Competitors

In modern business, the role of management is not only to look after its own business and products, but also to have a proper vision and analysis of the competitors' positions and moves. Lack of ability to handle competitors in the market can be fatal and the price paid for this negligence is huge (Porter, 1998). In telecom sector, these factors are even more serious if the operators do not take care of their competitors at the right time in the right markets. So the companies are very often forced to change their strategies due to the potential harm from the rival companies and their actions.

3.2.1 *Strategic Changes due to threat of new Entrants*

In telecommunication sector a new entrant always creates a threat to the existing operators. The new entrant has a potential to take a share of the market from the existing players in many different grounds (Porter, 1979). If the new entrants are smart and more capable then the existing players are very much vulnerable.

In the UK, in 2003 the main players of mobile communication were Vodafone, Orange, T-mobile, O_2 and Virgin mobile. But 3 (3G and other advanced service provider of Hutchinson Whampoa) entered to the market and changed the equations very soon after that. The 99% of the competition was limited to the above five companies. But 3 took the market shares from each and every company and Vodafone lost its pole position. This is how the market shares are being changed by the new entrants.

3.2.2 *Strategic Changes due to Bargaining power of Suppliers*

It is very common in businesses to change the strategies when the suppliers change or the existing suppliers start new bargains to change their own positions (Porter, 1979). In case of telecom companies the suppliers are the telecom vendors or the infrastructure and component builders. There are many telecom vendors in Europe. Even the non-European vendors are having successful business in Europe. So there are always a bargaining among the vendors and the operators. It changes the strategies of the companies in several ways such as initiatives for cost savings. Of course some of the operators themselves are vendors such as British Telecom, Portugal Telecom and France Telecom. But still they are affected by the new technologies and innovations.

3.2.3 *Strategic Changes due to Bargaining Power of Buyers*

Buyers or the customers are the key forces of any business. In telecom too they hold the key position of the whole business processes. In case of telecom the general public is the buyer and it has a great bargaining power. The bargaining may be oriented around the price of the service or the quality of the service or the reliability and trustworthiness of the services (Porter, 1979). Customers also want security in their online activities. All the telecom companies try to handle the bargaining power of the buyers appropriately. Especially when they enter the foreign markets the pricing and billing methods are not very much the same as their domestic markets. So, they cope with the new environments and challenges with suitable strategies.

3.2.4 *Strategic Changes due to Threat of Substitute of Products*

This threat is always there in the telecom market. It is also completely valid in every country and every market scenario. Any new or existing entrant can take the market and customers away from any vulnerable operators (Porter, 1987). Telecom sector is very much vulnerable from the substitute of products. All the good and sensible operators have very much similar kind of services in place except for a few. It can happen by the domestic companies or the foreign companies entering with good services and attractive pricing policies. It has happened in several cases in telecommunications market.

3.2.5 *Strategic Changes due to Intensity of Rivalry among the Competitors*

Intensity of rivalry is always a concern for the companies in today's market. It is always good to keep a vigil on the rivals (Porter, 1986 & Minzberg, 1994). Companies change their strategies when their rivals come forward with some attractive offers of policies to take the market share away from them. It happens in all the markets. In the UK the mobile operators used to offer the services only, without any scheme for handsets. But some operators offered handsets and other customer oriented schemes and took a huge market share. Now almost all the big players offer handsets and service bonuses to compete with each other.

3.3 Internal Strategic Changes in the main European Companies

In this section the main resources, capabilities, competitive advantages and core competencies are analyzed. Telecom companies have different types of resources as telecom infrastructure, skilled manpower, innovative capabilities etc. Of course the capabilities, core competencies and resources are common for some factors. In the following subsections these issues are addressed.

Capabilities are inherent to the individual companies depending on their resources, skills and manpower (Porter, 1986 & Minzberg, 1994). However with the changes in the external environment such as the customer base, markets and other core issues force the companies to transform their capabilities. For example, the 2G and other 2.5G services were the main focus of the telecomm companies in the UK, though they had the capabilities of 3G. But when 3 entered the market it changed the market dynamics and all the operators had to focus on the advanced services such as the 3G to cope with the threats of 3.

Core competencies are key to produce effective and attractive products and services. It also includes the magical management power of the companies to handle the good and bad times skillfully. In telecom business core competencies have big roles to play. Core competencies such as the innovation help a lot to capture the market and to make money from the innovations. For example European companies collaborated to develop GSM technology and thus most of the European companies do not pay any royalty for using GSM. But the non-European companies pay a royalty for using GSM. The case is similar for CDMA. QUALCOMM makes money from the CDMA technologies. Now many operators are having their own labs and research centers for the future technologies such as the LTE and beyond 4G.

Companies cannot hold the values they have forever. Values of the products and services keep on changing with time and markets. The companies understand that and they changes the values accordingly. In case of telecom markets there are aspects related to the values of the products and services. Value for the customer is the good services (good quality of service, good coverage, good experience without bad side effects etc.) at good (i.e., low) prices. In the 1990s and before that the call quality was the sole value needed in the mobile operations. In the early 2000s, call, SMS and connection capabilities were the new requirements. Now it has many dimensions such as the audio, video, text, picture, mobility and location based services all demand many basic needs. These requirements have to be fulfilled by the operators. Otherwise they lose the customer and market.

Sustainability is not a luxury to follow rather a basic requirement for companies. In a broad sense sustainability means efficient and judicious planning and implementation of various actions. It may be the efficient ways of harnessing energy or minimization of environmental degradations or the use of green technologies etc. There are several reasons why each and every company wants to be a sustainable one. Without sustainability, the company faces a lot of difficulties. Obviously the companies bend their strategies for long term sustainability.

Green technologies are related to the efficiency in the consumption of energy. Now the telecom networks are huge and consume a large amount of energy. Green technologies are quite popular in the new researches of the telecommunication sector. It saves energy and also facilitates the use of non-conventional energy in telecom operations. Many big companies are heading for green areas. It is a strategic change and all the companies would follow this trend in the near future. It not only reduces the energy bill but also gives hope for the energy solutions in the remote corners of the world where energy sources are not available. Deutsche Telecom is a front runner in this area. Other European companies are also investing in this research. This is an internal strategic change driven by the new technologies.

3.4 Managing Changes

As the changes are numerous in both the internal and external environments, the companies change their strategies to manage those changes. In this section, some major moves are listed with examples of the companies to manage the changes.

3.4.1 *Change in Focus due to Competition: Wireless companies looking towards fiber and landline sectors*

In 2001, wireless and wired services were not that much connected with each other from the commercial points of views. Wireless companies did not have much interest for the wired services such as the internet service provisioning through copper wires, twisted pairs, coax, ADSL and optical fibers. Of course optical fiber technology was not advanced enough to be used by the end user directly at that time.

However those things have changed a lot. Wireless companies are trying hard to have a share in the wired services. Wired services are paying large returns these days. With the increase of triple play (Voice, video and data over a common channel) applications the values of wired services have increased tremendously. It is very much lucrative in the general public service domain as every household wants to have broadband connections.

It is clear from many initiatives taken by the mobile companies like Vodafone. Vodafone acquired Cable and Wireless Worldwide for 1.29 billion € (1.04 billion pound) in March 2012.
Not only the landline services, the Telecom companies are also looking for all kind of telecom markets such as IPTV(Internet Protocol Television), CATV (Cable Television), DSL (Digital Subscriber Line), DTH Services (Direct To Home Television Services), Optical fiber backbone networking services etc (ITU, 2010). Even the VoIP services are part of their long term strategy. Some companies also provide VoIP services at low prices for long distance calls.

Mobile communication started as a voice enabled service. Then new service got added to the mobile platforms. First it was the text message services or SMS through the 2.5G and its similar protocols. Then in 3G both picture and low content videos could be sent. In HSDPA+, 4G and other LTE services these things have changed tremendously. These are the internal changes

which did not play any roles in 2001. More about these changes are presented in the next chapter.

Europe is the home of GSM technology, which was invented by an European research collaboration. So they do not pay the royalty for using this technology rather collect it from those who use it outside Europe. However CDMA is American technology invented by Qualcomm and it European companies have to pay royalties for using it. That is why CDMA was almost absent in Europe. But due to the competition and public demand for high bandwidth services, some companies have started using CDMA. Of course they use it only for the data or internet service provisioning.

The size of the telecom companies grow due to the size of the market and internationalization. Traditional methods are not enough to manage such complex industries. It needs new methods and technologies to handle these challenges. The management and data analytic softwares are the solution provider in these cases. Vodafone, Telefónica, France Telecom and other companies have acquired such companies to manage their operations smoothly.

3.4.2 *Outsourcing of Services to cheaper destinations*

Most of the companies in the UK, USA, Canada and other English speaking countries outsource their services to India. All the customer service related operations are transferred to India. Other countries also outsource some of their back office works to low cost destinations. That is how they save a lot of money and create markets for themselves in the low cost destination countries.

Chapter – 4
Changes in the Business Level Strategies and Strategic Actions

There are numerous changes in the business level strategies and actions by the telecom operators around the world in the last decade. Many new scenarios emerged due to the business level strategic changes. Many merging and mega-mergings have taken place. Many partnerships have been formed and broken. Cooperative strategies are also rising in number. These strategies are always the big moves by the companies and take the pole positions of the business news in various media very often.

4.1 Changes in Business Level Strategies

Business level strategies are those steps, which are essential to differentiate the position of a company from its rivals. Each and every telecom company has its own business level strategy in each and every market to cope with their rivals and competitors. Every year the companies evaluate their business level strategies and take appropriate actions to remain active and profitable in business.

However the twenty first century business level strategies are very much different from the previous ones. In the recent times the competitions are so fierce that rival companies alliance with each other to face the common competitor/s. There are several such examples. In this chapter some of those cases are presented briefly. Mainly merging is done for each other's benefits. In few cases even they compete through alliances. Here is a small list of such cases of last decade. The detailed analysis follows in the subsequent sections.

- Case of Orange and T-mobile in UK forming Everything Everywhere
- Case of merging and separation of PT and Telefónica in Brazil
- Case of Vodafone and Hutchinson
- Case of International ventures outside Europe
- Heading for fixed network services
- Vodafone taking over CWW
- Telefónica operating in China through partners
- Deutsche telecom renewing its abilities to innovate through T-labs
- France telecom entering emerging markets in Asia
- PT sold its shares in Vivo to concentrate in European markets
- PT looking for innovations to do well as a telecom vendor

4.2 Competitor in one Country and Alliance Partners in another Country

However when we look back down a decade, the scenario was very much different. The revenue was not that big, the region of operation was not that wide, the competition was way far low and

thus the strategy making was also simpler. In the second decade of the 21st century the story is very much changed.

4.2.1 *Rivalry through Alliance*

Rivalry is turning into alliances. Or in other words the rivalry is handled through alliances. This is the new strategy of the telecom operators. There are several cases of Rivalry through alliance.

I. *Case of Orange and T-mobile alliance in the UK*

Rivalries in the modern times have become too fierce. However the surprising part is the rivals coming together as alliance partners. Here the wonderful case of Everything Everywhere is presented briefly. Everything Everywhere was formed on officially 1July 2010 by the merging of the UK operations of Orange and T-mobile, two main players of British telecom market. The plan for the alliance started in early 2010 and the network performances were measured in May and June of 2010. Then the better versions of the available services were lunched as the part of the alliance.

Orange in UK

It was launched from its Bristol headquarters in 1994. It was the fourth company to enter the UK mobile marketplace. By the end of 1996 its coverage reached 90% of the population of UK . It entered the stock market as Orange Plc and became the youngest company ever to enter the FTSE-100, valued at 3.27 billion euro (estimated value from 2.4 billion GBP) and with one million customers.

Orange for the first time launched a tv-on-the-mobile service in 2005. It also launched the iPhone in 2009 and took a large market in the UK. Now it has over 15 million customers in the UK, and is one of the most recognizable brands on the high street.

T-mobile in UK

T-mobile in the UK started its operation as a partner of One2One. The brand was acquired by Deutsche Telekom in 1999. One2One launched Virgin Mobile, as a 50:50 joint venture partner with Richard Branson's Virgin group in the same year. In 2002 One2One rebranded to become T-Mobile, and in the same year became the first network in the Europe to offer picture messaging. So the brand T-Mobile became a new attraction throughout the UK. In 2010 it sold over 4.5 million handsets and around 10 million SIM cards.

Everything Everywhere

Everything Everywhere was formed with the 50:50 ownership of Orange and T-mobile. This partnership is only valid in the UK with its headquarters in London. Outside the UK, Orange and T-mobile are two separate competitors as they used to be. There were a lot of changes in the UK mobile operator's market after the formation of Everything Everywhere.

Impact of Everything Everywhere

Everything Everywhere changed the basic landscape of telecom business of the UK. After its formation it became the largest telecom operator in the UK surpassing both Telefónica (as O_2)

and Vodafone. It has a market share of 27.2% in the UK as of March 2012. Both Orange and T-mobile agreed to maintain their partnerships that existed prior to the alliance. Thus Virgin mobile and 3 broadband services are active partners of Everything Everywhere. The costs of operation have been cut significantly after the alliance. The High Street customer services have been strengthened after the merging. A lot of improvements have been provided to the network with the joint expertise of Orange and T-mobile.

II. ***Case of Vodafone and Airtel in India***

Both Vodafone and Airtel are big players in the Indian mobile telecom industry. Airtel is the number one player since the early 2000s. Vodafone entered the Indian market in 2007 as a partner of Essar and expanded its operations. But the network infrastructure building was a challenge for Vodafone. India is a big country and the number of subscribers is huge. Vodafone, instead of spending a huge sum on the infrastructure, used the Airtel infrastructure and paid the rent for it. Airtel in return took similar helps from Vodafone in African markets where both the companies coexist. In 2010, Vodafone bought all the shares of Essar to be the sole owner of Vodafone-Essar. Airtel too maintains its pole position in both revenue and number of subscribers in the Indian telecom market.

4.3 Internationalization of European Companies

European telecom companies were among the front runners of the global mobile communication. They innovated GSM, UMTS and its legacy systems. Even some of the CDMA technologies, the WiMAX and LTE were the brain children of these companies. So these companies had the abilities and skills to internationalize their businesses and they did it. The basic requirement of internationalization was to increase the revenue and profits. But the secondary needs were there as well. The costs of operation of specific sectors were expensive in Europe. So they shifted those operations to the low cost destinations of Asia and Eastern Europe. Entering Asia, South America, Australia and Africa were very much beneficial. So the traditional markets of Europe and North America were not enough for these companies.

More and more European companies are looking towards the markets outside Europe and Americas. The reality is the size of the markets of Asia and Africa. World's largest telecom markets are not in Europe and Americas in terms of number of subscribers. In order to play a truly global role they have to enter other markets. The environments of investment in the developing markets have changed by a large margin. These markets are very much friendly and want the participation of the western companies.

- *Case of Vodafone moving to India*

Vodafone used to be a successful company in Europe and America. But it was not so effective in its Asian operations until 2006. But in 2007 under the leadership of Arun Sarin it successfully entered Indian market and made a good impact with rapid growth. At the end of 2011, it was number two in revenue and number three in customer base in Indian telecom market. Due to its

Indian market, Vodafone became the second largest mobile telecom operator (in terms of customer base) in the world after China Mobile.

- *Case of Telefónica and TIM in Latin America*

Latin America is always a good market for the Spanish and Italian companies. The language and cultural similarities help them a lot to capture the markets. Both Telefónica and Telecom Italia (TIM) are successful in Latin American markets. Since 2009, their positions are consolidated by the high growth rates and increasing customer bases. Telefónica took over the total shares from Portugal Telecom from Brazilian company Vivo. After that Vivo became a big brand of Telefónica. Similarly TIM has strengthened its position in Brazil and Argentina.

- *Cases of Other companies out of Europe operations*

All the European companies are looking for markets outside their traditional strongholds. Orange has strengthened its African Operations. Portugal Telecom is also doing the same. It also consolidates in its Asian markets in Macau and East Timor. MTS has entered Indian market successfully. Telenor has expanded its Asian presence. In 2008 it entered the Indian market from its Singapore branch. Telia Sonera too has expanded its operations in Asia. It has become a significant player in Uzbekistan, Russia and some gulf countries.

In the last decade there are a few companies who have pulled out of the foreign markets. Of course they do it with respect to the market positions and dynamics. It is interesting that they sell out their shares in one company and buy new shares of another company in the same market. This issue has been addressed in the later part of this chapter.

4.4 Other Cases of Mergers, Acquisitions and Takeovers

Mergers, acquisitions and takeovers are quite common in telecom business. In telecom sectors of Europe, companies are not that rigid in taking the decisions which are beneficial but compromising in a few aspects.

- *Case of complete takeover of O_2 and Vivo by Telefónica*

BT Cellnet sold half of its to Telefónica in 2002. The name of the joint operation became known as O_2. After a successful run for next four years BT wanted to pull out its shares and to invest more on the national infrastructure and international collaborations. In 2006, O_2 became a brand of Telefónica with 100% ownership. Similar takeover took place in Brazil. Both Telefónica and Portugal Telecom nurtured the Brazilian company Vivo. But Portugal Telecom sold its shares to Telefónica and left out of Vivo. Now Vivo is a pure Telefónica brand.

- *Vodafone taking over Hutch and CWW*

Vodafone was looking forward to have a dominant position in Asia in 2006. But building the infrastructure and to start a business from scratch was too tough for it. At that time Hutch (or the Hutchinson Whampoa) had a good share of market in Honk Kong. After successful negotiation, Vodafone took over Hutch in 2007. It also helped Vodafone to partner its operations in China

and Taiwan. Then it bought the Indian operations of Hutchinson-Essar for 10.7 billion USD. Vodafone got a commanding position in Asian Telecom sector. Vodafone had a plan to have fixed network shares. The changed scenario shows that the fixed markets are also as profitable as the mobile market. Vodafone took over Cable and Wireless Worldwide recently to strengthen its fixed network business in the UK.

4.5 New Trends due to Advanced Technologies

There are numerous advanced technologies available in the market now. Every year some new additions take place. Based on the technologies there are a lot of new trends in place. Some of them are directly related to the telecom services and others are not.

These services are the additional services which are available on the mobile platforms. It helps the companies in topping up their income from the wireless services. However in Europe these services are growing rapidly and the revenue shares too are in the range of 10% of the net income of the companies. So they cannot neglect it.

- *Mobile computing services*

Mobile computing is related to the computing aspects available on the smart mobile platforms. In 3G and other advanced mobile platforms the computing facilities are enormous. It can do a lot of tasks other than the telecom services. It can provide online business and commercial facilities, online gaming, financial services, location and choice based services, emergency helping, health care facilities etc.

- *Place based services*

Place based services are the advanced mobile computing applications which are identified by the smart platforms and the user gets these services when it is in the surroundings. This is in fact a sensor area network service which recognizes the places and facilities by some smart means such as the GPS or other place identification techniques.

- *Location based services*

This service is similar to the place based service but it is only related to a specific location. These services are becoming very popular in the areas of tourism and travels. Almost all the cab drivers are using these technologies based on the GPS and other methods. Police and emergency service departments also use these services to improve their performances.

- *mCommerce services on the mobile platform*

mCommerce or the mobile commerce applications are available on the mobile platforms. But the security aspects were not that good. So it was not very popular until last couple of years. Now the security aspects have been improved significantly and thus the mobile commerce applications also increase. It allows the users to transact anywhere anytime.

- *mPesa (mMoney) and money transfer solutions*

mPesa is the online money transfer system enabled through the mobile platforms. It is very easy and simple application and can be done by the common users without many hassles. In countries where the bank accounts are not that easy to open or banks are not available, mPesa is a good solution.

- *mHealth Solutions*

These are the online healthcare related services that can be provided through the mobiles. It helps the patient a lot to get advice and pre-clinical preparations. Remotely monitored surgeries are carried out through these technologies. These solutions are very popular these days and also growing every year.

- *4G and LTE services*

4G is the fourth generation of mobile communication and it has higher data rates, higher bandwidths, better qualities and lower latencies than the 3G. 4G services have been launched in different countries of Europe recently. It is also present in many parts of Asia, America and Australia. In fact, 4G is an LTE (Long Term Evolution) technology, which has the aim to keep the mobile evolution growing forever so that new services and products will keep on coming to the market.

4.6 Reversal of Strategies

There are several cases of reversal of previous business level strategies. In fact the changing landscapes of the international business force the companies to take these steps in the current scenario.

- *T-mobile entered US in 2001 and now wants to leave it back*

T-mobile entered the US market with ambitious goals. It was successful in expanding its operations in the USA. However, it has different plans. The USA market is very much competitive and needs effective management all the time. Instead, T-mobile wants to increase its European presence and has plans to lead the innovation in telecommunications. So, it wants to pull out of the USA. There were negotiations between AT&T and T-mobile for the takeover which was valued at 50 billion USD. But the talks have failed as per the news sources. There was also news that AT&T itself wants to get rid of the wireless business.

- *Vodafone entered into a joint venture with Verizon*

Vodafone entered the American market with a lot of positive ambitions. It got its returns from the partnership with Verizon. It has 45% share in Verizon Wireless. However it is an uncontrolled business sector for Vodafone as most of the decisions are controlled by Verizon. Vodafone also cannot use its brand name in that joint venture. Having all these restrictions, Vodafone wants to stop the partnership with Verizon Wireless. But it does not want to leave the big US market. So its plan as published in the telecom magazines is to sell its shares to Verizon and to acquire another company in the USA like AT&T.

- *PT leaving Vivo and entering Oi*

Portugal Telecom had almost half of the shares in Vivo of Brazil. The other half was with Telefónica. But under the leadership of Zeinal Bava, PT pulled out its shares from Vivo for 7.7 billion euro. But after a few months of that pull out, it bought 25% shares of Oi in the same market. That is of course paying the returns as PT is back into the growing forms.

4.7 Strategic Changes in Leadership

Leadership is a key aspect of every company. All leaders are not alike and thus every company does not follow the same path. Leadership takes the role of showing the path to the company and employees. In case of Vodafone it had chosen Arun Sarin to lead its globalization processes. He led Vodafone in the right direction for five years. After him came Vittorio Colao, who followed the growing path provided by Arun Sarin (Vodafone, 2011). Like Vodafone other companies too have changed their CEOs as a part of their strategic leadership. Sometimes it is difficult to get charismatic leaders in the same sector and thus the companies hire the great leaders from other sectors. Portugal Telecom brought Zeinal Bava from the banking sector (wireless.com, 2012). There are also instances of sacking the leaders for wrong policies. In T-mobile, the CEO was sacked after the eavesdropping scandal came to public in 2008. René Obermann was appointed as the new CEO and he handled the post-scandal issues and led the company for renewed growth, which was badly affected due to the controversy.

4.8 Strategic Changes in Entrepreneurship

Strategic changes in entrepreneurship are required to kick start the new trends of business. It incorporates the changes in innovation processes, innovation at the corporate level governances, innovative structural changes and above all new motivation for growth and innovation.

Deutsche Telecom is the largest telecom company of Europe. Its mobile wing, T-mobile is also a big brand in Europe and America. But the 2008 controversies hit it very hard. The new management cooperated with the public prosecutors and wanted to come out of it. In addition to these soothing steps Deutsche Telecom wanted to change its face value through new innovations. The outcome was T-Labs (Deutsche Telecom, 2011). T-Labs are advanced research facilities for all major current issues of telecommunications.

Following the paths of Deutsche Telecom, now other companies also follow the same route. British Telecom has increased its role in innovation and university partnerships. It is reducing its presence from the telecom operations and increasing the R&D expenditures. Portugal Telecom too looking for its growth powered by the innovations. It is clear from the increase of funding in PT Inovação projects and university collaborations (Portugal Telecom, 2011). Telenor, Teleia Sonera and MTS too have similar initiatives in their own countries.

Innovation and talents are the biggest needs of each other. The telecom companies understand it well and they hire the talents in different ways. They also fund for the higher studies and research in universities and institutes for excellence in innovation.

4.9 Changes in Marketing Strategies

Marketing, advertisement and brand making is essential to capture the markets and to create brand values in each and every business (Kotler, 1985). In the telecom sector, its importance has been elevated rapidly due to its wide acceptance by the public globally. In fact the brand values of telecom companies have increased very fast in the last decade. Thanks to the successful marketing and advertising campaigns. Telecom companies have used the local intelligence and the cultural power of the locality to address their marketing needs. Spending in it too has gone up. It has followed in the corporate rebranding of the telecom companies (Daly, 2004).

Table 8 – Top Telecom Brands in 2011

	Brand		Brand Value (million USD)
1	**Vodafone**	:	**30,674**
2	**AT&T**	:	**28,884**
3	**Verizone**	:	**27,293**
4	**China Mobile**	:	**19,317**
5	**Orange**	:	**18,622**
6	**Movistar**	:	**14,935**
7	**Cisco**	:	**11,667**
8	**T-Mobile**	:	**11,553**
9	**NTT**	:	**10,338**
10	**Nokia**	:	**9,658**

Source: http://www.totaltele.com (2012)

According to Brand Finance plc, the Vodafone brand has risen to become the ninth most valuable brand in the world. Similarly, Orange, T-mobile, Movistar, O_2, TIM, all have improved their relative positions in the brand value in the last decade. In the 2010 calendar year Vodafone renewed its title partnership with the Vodafone McLaren Mercedes Formula One team (Vodafone, 2011). It has been a strong year for the sponsorship with increased television viewing figures and greater exposure for Vodafone after that Formula One deal. Movistar of Telefónica is the fastest growing telecom brand in 2011-12 in terms of brand value (totaltele.com, 2012).

4.10 Cultural Diversities and other Management Strategies

Handling cultural diversity is one of the main strategies of international business management. The successful companies in the service domain do it skillfully. Vodafone, Orange, T-mobile, Telefónica, TIM are examples of such model companies who handle the cultural issues quite smoothly. Vodafone helps the communities in several countries for social causes (Vodafone, 2011). This is a compelling way to come to the focus of the customers and general public. Vodafone has its own foundation for this purpose.

Vodafone Group has continued to fund the good work of the Vodafone Foundation (Vodafone, 2011). Through the Vodafone Foundation and their network of national affiliate foundations they support communities and societies in the countries in which they operate. In the financial year 2011 they invested a total of £50 million in foundation programmes and social causes. Their World of Difference programme is now in 20 countries and has so far enabled 1,500 people to take paid time to work for a charitable purpose of their choice in their own community or in a developing country. Their Mobiles for Good programme, combining our technology with their giving, saw the launch of Instant Network, a partnership with Telecoms Sans Frontiers which enables a network to be deployed from three suitcases, covering 10 km^2 for usage of up to 12,000 people. Field trials are currently underway.

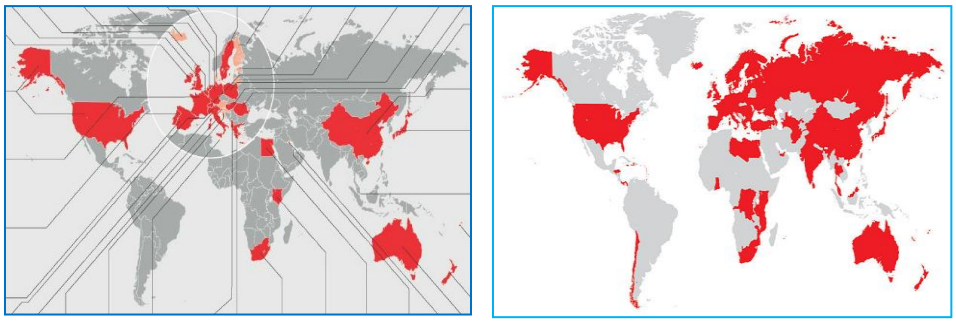
Like Vodafone foundation other companies too have their own foundations, which provide some philanthropic services to the general public and gives a humanitarian face to the companies. Telenor in Bangladesh has formed a cooperative phone network for the poor people with the help of Nobel Laureate M. Yunus. These initiatives help strength the public relations ships of the companies and improves the brand value.

Chapter – 5
Company-wise Strategic Changes of European Players in the Last Decade

In the decade, from 2001 to 2011, there were several changes taken place changing the telecom industry. Some of those major changes are listed here with respect to the concerned companies.

5.1 Strategic Changes of Vodafone

2001	2011
It was confined to the western world and Australia (Vodafone, 2001).	As of March 2012, it is present in 70 countries of six continents (Vodafone.com, 2012).
The net customer base was around 100 million.	It is the 2nd largest mobile operator in the world with a customer base more than 450 million.
The service was mainly focused towards voice and text message	The service list is multidimensional with a couple of dozens of VAS such as online gaming, mPesa and mHealth.
Revenue in Europe had a growing trend. So it expanded its operations in Europe.	Revenue in Europe is almost stagnant. So it has to expand its operations in Asia and Africa.
It was number one in the UK and a dominant player in Europe.	Its luxury days in UK is over, but still a big player in Europe
Tariffs used to be high and it was the only source of revenue generation	Tariffs have come down significantly. Now there are multiple sources of revenue including the network sharing with partners.
Marketing expenditure was medium in 2001. Vodafone brand was unknown outside the west.	Marketing expenditures have increased and Vodafone has become the largest telecom brand in the world now.



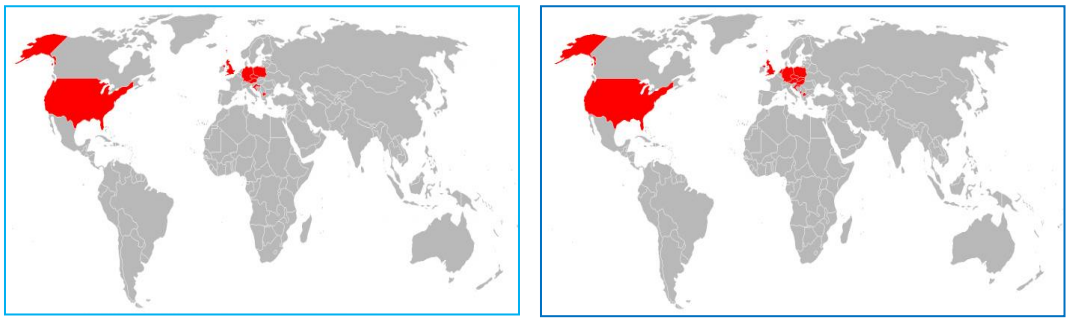
Vodafone in 2001 Vodafone in 2011

Figure 22 – Global Presence of Vodafone in 2001 and 2011. Source: Annual Reports of Vodafone (2001, 2011)

5.2 Strategic Changes of Deutsche Telecom

2001	2011
The net mobile subscribers were 67 million (Deutsche Telekom, 2001).	At the end of 2011, it has more than 150 million mobile subscribers (Deutsche Telekom, 2011).
The service was segmented but not well differentiated.	Now the services are well classified and differentiated as well.
The brand was successful but not the well	All the T- segments are famous brands in its

known.	operating countries and the brand value has increased significantly.
Well positioned in European telecom market in 2001 with good growth rates.	Faced both legal and market challenges due to the phone tapping controversy. The new CEO handled the situation and brought it into the growing forms.
It purchased VoiceStream Wireless for 35 billion USD to start its business in USA in 2001.	It plans to sell out its T-Mobile operations in the USA.
It is one of the most innovative telecom companies of the world.	Now its T-Labs initiative is a clear indication of its inclination towards innovation. That is why it wants to reduce its presence in USA.
It wants to increase its European presence.	Wants to sell its American business.

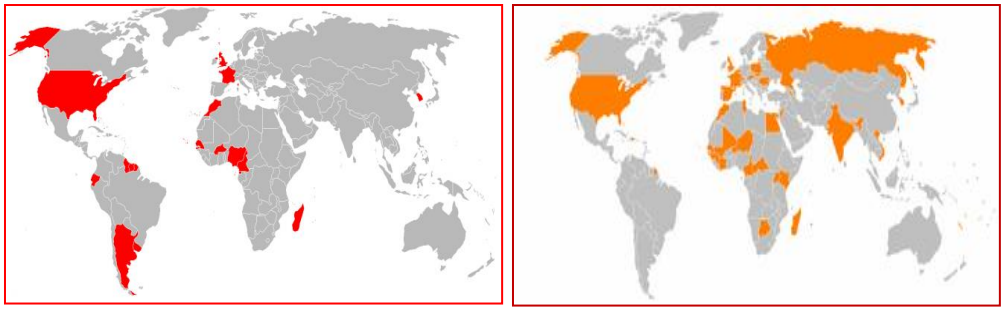


Deutsche Telecom in 2001 Deutsche Telecom in 2011

Figure 23 – Global Presence of Deutsche Telecom in 2001 and 2011. Source: Annual Reports of DT (2001, 2011)

5.3 Strategic Changes of France Telecom

2001	2011
It was present in Europe and its past colonial countries in Africa and Americas (France Telecom, 2001).	It has expanded to Asia, middle East, Africa and Russia. However reduced its operations in Latin America. Present in 220 countries in different forms (France Telecom, 2011).
92 million mobile customers worldwide. (France Telecom, 2001)	Customer base has gone up to around 210 million in 2011 (France Telecom, 2001).
It was present in all segments of telecommunication in France	In addition to its old sectors it look towards IPTV, VoD and cloud computing business.
It was very well placed in 2001.	It struggled a lot in the middle years. Now it is better than its dark days of 2002-08
It was one of the first companies to introduce additional applications to telecom.	Now it makes a significant amount from its VAS services.
Tariffs started to come down slowly.	Tariffs are in a decreasing trend, but consolidated in many countries.
Innovation was initiated in the late nineties. 230 patents filed in 2001. But the returns were normal	In 2010 it was awarded 330 patents and its net patent portfolio goes up to 7800. Plans to have bigger R & D expenditure.

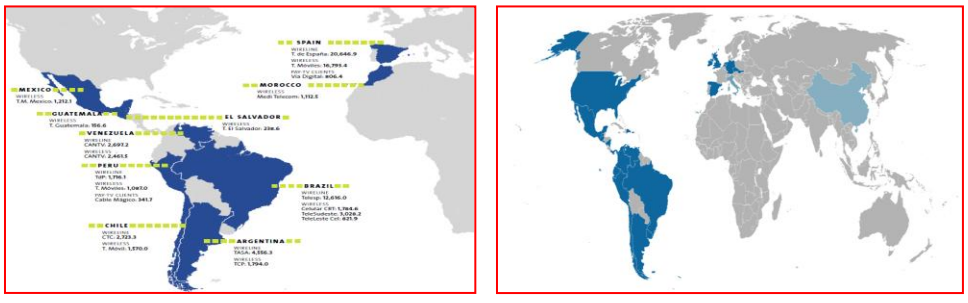


France Telecom in 2001 France Telecom in 2011

Figure 24 – Global Presence of France Telecom in 2001 and 2011. Source: Annual Reports of FT (2001, 2011)

5.4 Strategic Changes of Telefónica

2001	2011
It was just another telecom company in 2001 (Telefónica, 2001).	Now it is one of the most successful telecom companies in the world (Telefónica, 2011).
Customer base was well within 100 million.	Now the customer base is around 290 million.
It had no presence in Asia.	It has shares with China Unicom, but plans to reduce its shares in 2012.
Operating in fixed and wireless telecom.	Now it has many VAS applications.
It did not have strong brands. It was well known only in Spain and a few countries of Latin America.	It has now very successful brands such as Movistar, O_2 and Vivo. Movistar is the fastest growing telecom brand of the world.
Tariffs were quite high and thus the entrance to the developing markets was not that attractive.	Tariffs have come down now. It has significant presence in developing markets of Americas and China. Of course it wants to bring down its shares from China Unicom.
The presence was mainly in Spain and a few countries of Latin America. It was planning to expand in Europe.	Direct presence in 26 countries of the world (6 in Europe; 14 in Latin America). The group is active in three other countries through its strategic alliances. However, commercial presence in different forms covers 44 countries in six continents.



Telefónica in 2001 Telefónica in 2011

Figure 25 – Global Presence of Telefónica in 2001 and 2011. Source: Annual Reports of Telefónica (2001, 2011)

5.5 Strategic Changes of TIM

2001	2011
Total number of subscribers was 50.6 million.	Now it has more than 103 million mobile customers worldwide.
Oliveti was the main shareholder with 54.96% shares.	Now it has a large number of share holders and almost half of them are international.
It was mainly a wireless operator with fixed operations in Europe.	Now it looks for both wireless and fixed business in all its markets.
The brand value of TIM was quite good in Italy and South America	TIM brand has become popular and its value has increased.
Total work force was 110,000.	It has been cut down to 84,200.
R&D spending was moderate.	It has increased the R&D spending.
Used to concentrate in Europe and Latin America.	It has expanded its operations throughout the world.

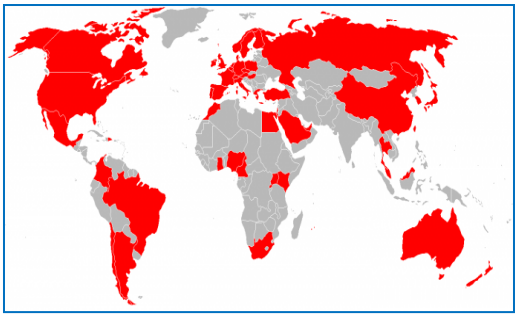
Telecom Italia in 2001

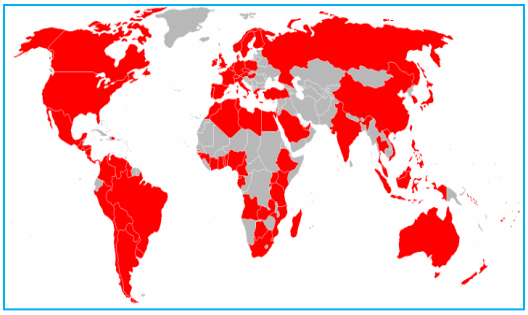
Telecom Italia in 2011

Figure 26 – The Global Presence of Telecom Italia in 2001 and 2011. Source: Annual Reports of TIM (2001, 2011)

5.6 Strategic Changes of BT

2001	2011
One of the big telecom operators in the UK.	It has sold out its shares from mobile telecom markets.
Innovation was there; but the returns were low.	Innovative trends have been emphasized significantly. BT makes money from its overseas consultancy and patents.
The main stakeholder was the British government.	It has facilitated privatization and faster growth.
It was a versatile company with both wired and wireless operations,	BT consolidates on the fixed infrastructure and telecom innovations.
Tariffs used to be high to medium.	Tariffs have come down but the new frontiers are generating money.
It was mainly focusing in Europe, USA and few parts of Africa (BT, 2001).	Now it is present in 50 countries of six continents (BT, 2011).



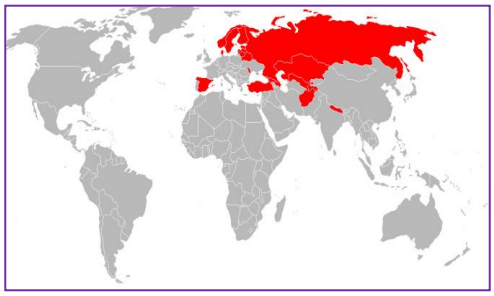


British Telecom in 2001 British Telecom in 2011

Figure 27– Global Presence of British Telecom in 2001 and 2011. Source: Annual Reports of BT (2001, 2011)

5.7 Strategic Changes of Telia Sonera

2001	2011
Telia and Sonera were two different companies and they combined to form Telia Sonera in 2002.	The company has expanded its presence to CIS and Nepal (Telia Sonera, 2011).
Total subscriber number was around 31 million (Telia Sonera, 2001).	The total number of subscribers is more than 170 million (Telia Sonera, 2011).
It used to have Telia and Sonera brands.	It has several popular brands like Halebop, Netcom, blg, Omnitel, Amigo etc.
It used to focus on traditional telecom sectors.	Now it concentrates on all old and new telecom sectors such as VoIP and VASs.
It used on spend less in innovation.	Now it spends more in innovation projects.
Tariffs were high to medium.	Tariffs have come down but the VASs have increased in number.



Telia Sonera in 2001 Telia Sonera in 2011

Figure 28 – Global Presence of Telia Sonera in 2001 and 2011. Source: Annual Reports of Telia (2001, 2011)

5.8 Strategic Changes of Telenor

2001	2011
Mainly present in the Nordic countries.	Now it has spread to Scandinavia, Eastern Europe and Asia
Its brand was not known outside the Scandinavia	Now it is known in many parts of the world
Net customer base was less than 10 million.	The customer base has gone above 200 million.
It had plans to increase the presence in the	It plans to serve both the fixed and wireless

mobile market.	markets.
It was moderate in innovation.	It wants to increase the innovation spending.
Tariffs used to be high.	Tariffs have come down; but the value added services have given a lot of advantages.
It had social programs in Scandinavia.	It has started cooperative programs in Bangladesh with M. Yunus.

Telenor in 2001

Telenor in 2011

Figure 29 – Global Presence of Telenor in 2001 and 2011. Source: Annual Reports of Telenor (2001, 2011)

5.9 Strategic Changes of MTS

2001	2011
Its net customer base was around 20 million. That was mainly in Russia and its few surrounding countries.	Now in Russia and CIS it has a base on 103 million plus as of 2010. It is the largest mobile operator of Central and Eastern Europe.
It had mainly GSM based operations.	Now it has both GSM and CDMA legacy operations.
Its brand was very new.	The band MTS has become popular.
Partnership deals were not there except for the licensing deals.	Now it has global partners. It collaborates with Vodafone and Indian companies.
Tariffs were high and the market penetration was low.	Tariffs have come down; but the operations have expanded in Russia and world.
It was confined in the CIS and Russia.	Now it has moved to Asia.

MTS in 2001

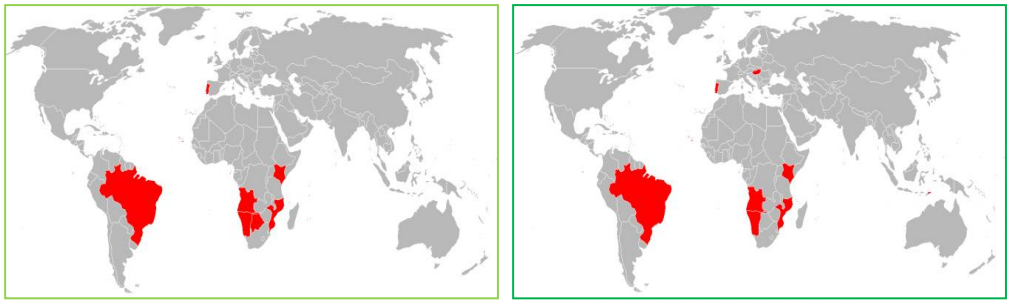
MTS in 2011

Figure 30 – Global Presence of MTS in 2001 and 2011. Source: Annual Reports of MTS (2011)

5.10 Strategic Changes of PT

2001	2011
It had 8.115 million cellular customers.	The number has gone up significantly.
It had a significant role in the Brazilian	Sold its share in Vivo to Telefónica and

Telecom company Vivo.	bought 25% shares in Oi. Both the selling and buying in Brazilian telecom market.
Revenue growth was positive.	Revenues have gone down recently. But new initiatives are encouraging.
It was bit complacent in 2001.	It took strong leadership changes in 2008.
Innovation expenditures were low.	Now it spends a significant amount in innovation.
Tarrifs were high to medium.	Tariffs have come down due to competition but the net revenue too came down.
Used to focus on the traditional sectors.	Now focuses on all possible sectors of telecom such as VoIP and VASs.



PT in 2001 PT in 2011

Figure 31 – Global Presence of PT in 2001 and 2011. Source: Annual Reports of PT (2001, 2011)

Chapter 6
Telecom Scenario of India in the 2001 to 2011 Period

India is the second largest country in the world with 1 billion plus population. Its telecom market is also huge. In this chapter the telecom market of India is analyzed from the key indicators points of views. All the key aspects are analyzed and presented in the appropriate formats. Then the ten largest companies are analyzed from their strategic points of views. Both the revenue and number of subscribers are taken into account to check the changes observed over the last decade.

6.1 Overview of Indian Telecom Market

The Indian telecom market is the second largest national telecom market in the world after China. According to the recent reports of Telecom Regulatory Authority of India (TRAI, 2011), its number of mobile subscribers is 920 million and total number of wireless and wired subscribers is more than 951 million. India´s telecom growth started in the eighties and in the 2000s it reached the modern scenario. In Table 9 the telecom growth rates are presented which shows the real transformation in the last decade. But the trend is different from Europe. In India the mobile subscriptions are increasing while the landline numbers are decreasing over the years.

Table 9 – Growth of Telephones in India. Source: DoT Annual Report (2011)

	Mar 04	Mar 05	Mar 06	Mar 07	Mar 08	Mar 09	Mar 10	Dec 10
Wireline	40.92	41.42	40.23	40.77	39.41	37.97	36.96	35.09
Wireless	35.61	56.95	101.86	165.09	261.08	391.76	584.32	752.20
Gross Total	76.53	98.37	142.09	205.87	300.49	429.73	621.28	787.29
Annual Growth %	40	29	44	45	46	43	45	27

India's telecom sector started during the British era. Most of the big cities were connected with each other during that time. Also these cities were linked with London and other big cities. After the British left, Indian government took new initiatives to renew the telecom infrastructure.

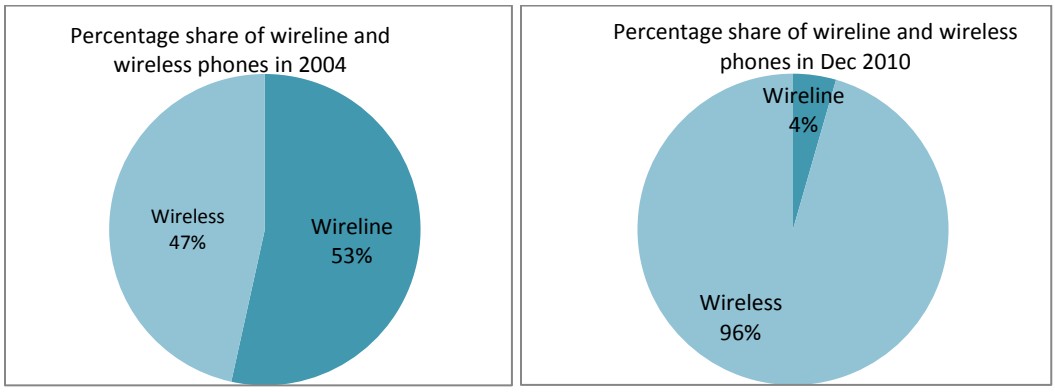


Figure 32 – Shares of Wireless and Wireline in India. Source: DoT Annual Report (2011)

In the post independence era India followed a socialistic nationalization policy. Under this policy the government became the sole authority of all the basic service provisioning. It is known as License Raj (means the culture of licensing everything) in India. There was almost no growth in

the economy under the License Raj. The three decades from 1950 till mid 1980s saw a fierce role of licensing administration of the government. In made the bureaucracy very powerful. However, the policies were changed with the globalization and privatization started. Investments from both domestic and foreign players increased significantly. Privatization helped in the growth of telecom industry as well (DoT, 2006). Now-a-days most of the dominant telecom service providers are private. In Figure 33 the growth of privatization in the telecom industry is shown.

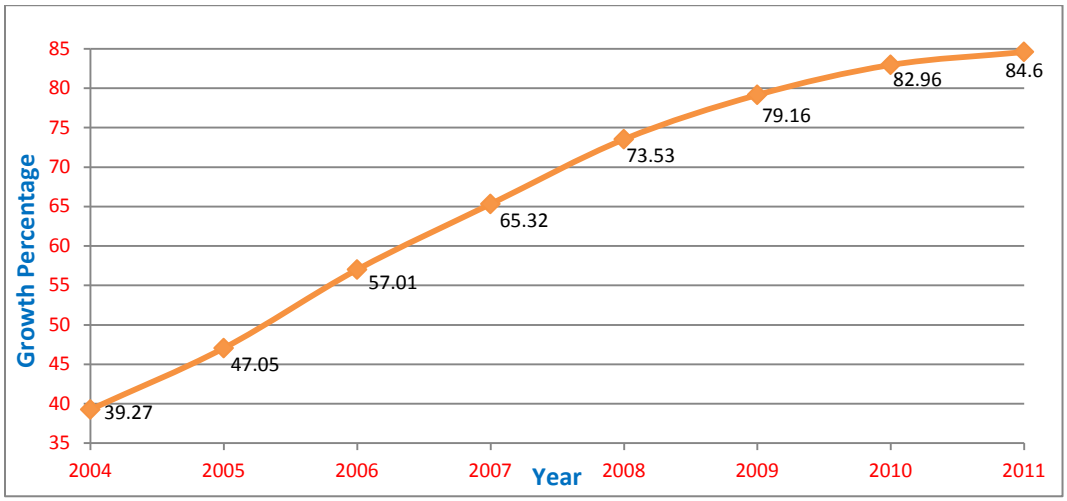


Figure 33 – Growth Percentage of Private Networks. Source: DoT Annual Reports (2012)

Teledensity of Indian telecom sector was very poor till the 1990s. After the liberalization it has changed drastically. With the arrival of wireless companies and mobile technologies India has risen to be one of the largest telecom markets of the world. Data on teledensity on the last eight years is shown in Figure 34.

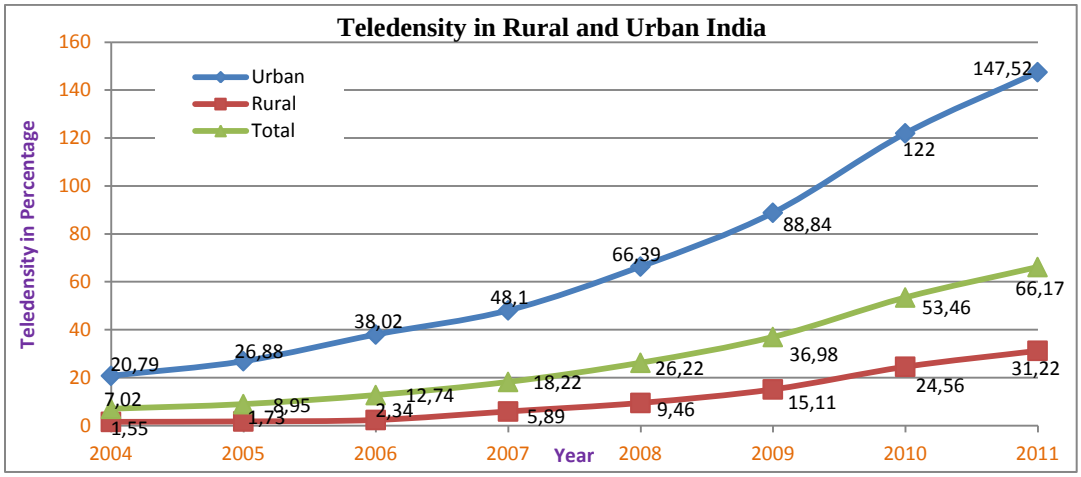


Figure 34 – Percentage growth of Teledensity in India. Source: DoT (2012)

The connections which provide data rates of 1Mbps or more are known as broadband connections in the present standards. The number of broadband subscriptions is rising in India as

shown in Figure 35. As shown in figure the price barriers and improper service provisioning are the main obstacles for the growth of broadband subscriptions. However the growth rates are encouraging. The prospects of DSL and fiber based connections also finds its place to the commercial uses.

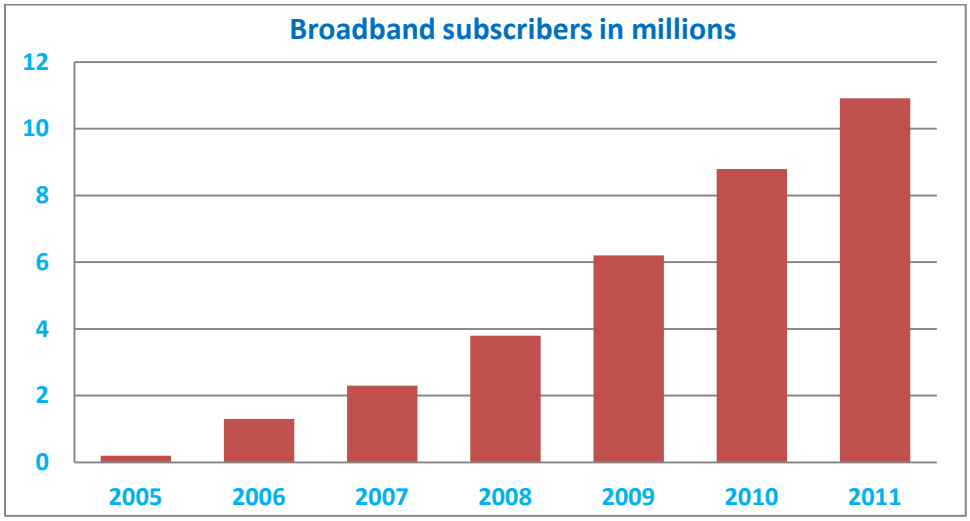


Figure 35 – Percentage growth of Broadband Subscribers in India. Source: DoT Reports (2012)

Lack of manufacturing and production of telecom equipments was a big obstacle for Indian telecom market. That has been eased to some extent as presented in Figure 36.

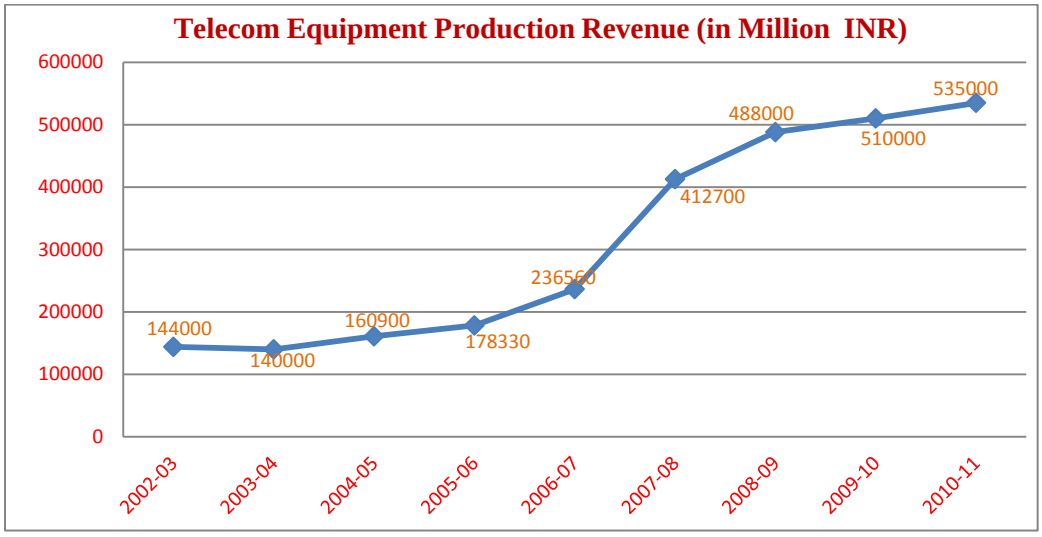


Figure 36 – Growth of Telecom Equipment Production in India. Source: DoT Reports (2012)

With the increase of production and manufacturing, India has started exporting the telecom equipment goods to foreign countries. However, domestic companies do not have much contribution in it. Most of the goods are produced by the multinational companies present in India. The export trend is shown in Figure 37.

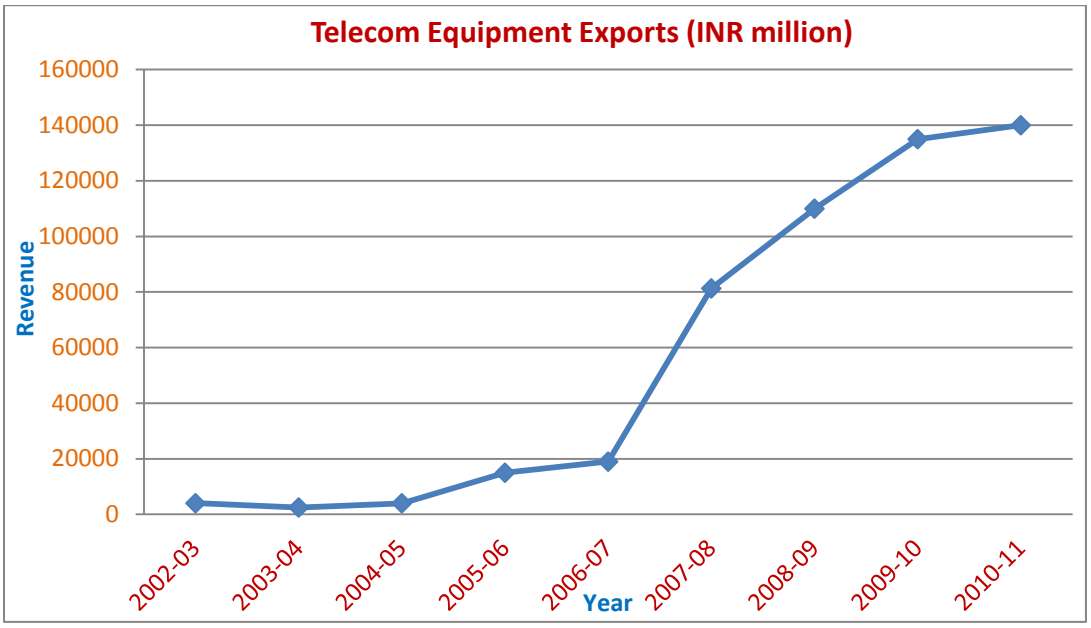


Figure 37 – Growth Trend of Telecom Equipment Exports from India. Source: DoT Reports (2011)

India has attracted a lot of FDI in the recent years. In telecom sector too the FDI is very much encouraging. Most of the FDI is in the mobile operations and telecom vendor segments. Nokia Siemens and Eriksson are planning to have big manufacturing plants in India. The recent trends of FDI in the telecom sector are shown in Figure 38.

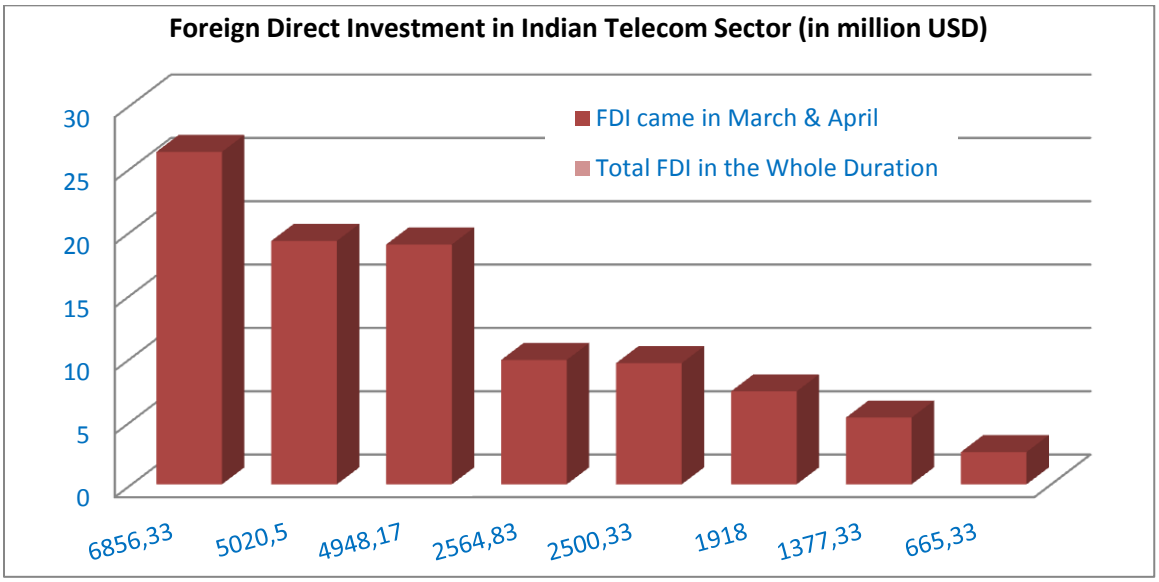


Figure 38 – FDI Trend in Telecom Sector of India. Source: TRAI Annual Report (2011)

6.2 Top 10 Telecom players of India

India is huge market for any business due to its 1.2 billion plus population. Telecommunication is now a basic need for each and every Indian. India has the 2nd largest number of mobile

subscribers in the world just second to China. However, as the growth rate is larger than that of China, India may overtake China at the end of the year 2012. In this analysis of the strategic shifts of Indian companies ten largest companies (listed below) are considered. The revenue shown here are in euro (converted from INR using the current exchange rates). Airtel is the largest telecom company in India in terms of revenue followed by Vodafone-Essar (TRAI, 2011). It can be observed from the Table 10.

Table 10 – Revenue of ten top Indian Telecom Companies

	Company	Revenue (in Mn €)	Relative Percentage
1	**Airtel**	**6856.33** (Airtel, 2011)	**26.25**
2	**Vodafone -Essar**	**5020.5** (DoT, 2011)	**19.22**
3	**BSNL**	**4948.17** (DoT, 2011)	**18.94**
4	**Idea**	**2564.83** (Idea, 2011)	**9.82**
5	**Reliance**	**2500.33** (Rcom, 2011)	**9.57**
6	**Tata**	**1918** (Tata, 2011)	**7.34**
7	**Aircell**	**1377.33** (Aircel, 2011)	**5.27**
8	**MTNL**	**665.33** (MTNL, 2011)	**2.55**
9	**Uninor**	**161.33** (DoT, 2011)	**0.62**
10	**MTS India**	**106.83** (MTS India, 2011)	**0.41**
Total for 10 companies		26118.98	100

There are several differences between the markets of Europe and India. The Indian market is very much price sensitive and thus the price level is much lower in India. It has one of the lowest rates in the telecom world. In order to maintain the low rates and good services, the quality provision needs to be perfect. The Indian market is dominated by the local operators though in the recent past new entrants have entered the market. Some of them are extremely successful. Indian telecom market has gone through modern transformations. It too has a diversified technology and economic aspects like its European counterparts. The market size and share of top ten Indian telecom companies in 2011 are shown in Table 11.

Table 11 – Number of Subscribers of ten top Indian Telecom Companies in 2011. Source: TRAI (2011)

	Company	Number of Subscribers (in millions)	Relative Percentage
1	**Airtel**	**162.2**	**20**
2	**Reliance**	**135.72**	**17**
3	**Vodafone -Essar**	**134.57**	**17**
4	**BSNL**	**91.83**	**12**
5	**Idea**	**89.5**	**11**
6	**Tata**	**89.14**	**11**
7	**Aircell**	**54.84**	**7**
8	**Uninor**	**22.79**	**3**
9	**MTS India**	**10.06**	**1**
10	**MTNL**	**5.47**	**1**
Total for 10 Companies		796.12	100

The comparative standings of the companies are clear from Table 11, which shows the percentage shares of individual companies. Airtel is leading with 20% of the market. As the growth rate of Vodafone is much higher than Reliance, it is expected that Vodafone will be in second position in 2012 fiscal year.

6.3 Main Strategic Changes

There are several changes in different segments of strategies of the telecom companies. In the following sections the main changes in the strategies are described in brief.

6.3.1 *Arrival of International Companies*

The Indian telecom market was very much dominated by the national players until 2004. The foreign operations were limited to the vendors and infrastructure builders. However, the liberalizations in the economic policies and the investor friendly markets have been attracting the foreign companies since 2004. In all sectors of telecom (i.e., wireless and wired operations, vendors, VoIP, internet service provisioning) foreign companies started their business operations. Firstly, Hutch entered from its Hong Kong base. Then Vodafone entered in 2007, followed by Telenor, MTS and others. 2007 onwards, Indian telecom sector is very much international in nature from the operators' points of views. The national players had to protect their markets through appropriate strategies. Mainly the dominating players faced a lot of challenges to maintain their market share.

6.3.2 *Alliances between Companies*

Foreign companies normally do not enter the Indian market directly. That is due the difference of Indian business processes than the foreigners. They prefer partners in India to ease their initial challenges. Vodafone and Hutch both partnered with Essar of India. Similarly, Telenor took the help of Unitech to form a joint venture called Uninor. This strategic partnership helped both the companies in forming a strong business environment for mutual growth. Some of the companies extend their partnerships beyond India.

6.3.3 *Mergings and mega-mergings*

Merging and acquisitions of telecom companies have a big impact on the telecom sector. Vodafone first acquired 67% stake of Hutchinson-Essar India. Then it took over other small operations of its Indian partners. In 2010, Vodafone completely bought the shares of Hutch and Essar to have the sole ownership of its operations. Tata tele-services and DoCoMo of Japan agree to merge their Indian operations. Later, DoCoMo paid 2.2 billion USD to Tata to have the deal. The merger between Hutch and Vodafone is a mega deal in Indian telecom business.

6.3.4 *Joint Ventures with Telecom Vendors*

Joint ventures between telecom companies are not uncommon. But in India there are joint ventures between the telecom operators and vendors. There are many such big joint ventures between the big players. Some of the large ones are presented here.

Airtel-Erricson: Ericsson and Airtel are old friends since Airtel started its mobile operations in the mid 1990s. The network maintainace and optimization of Airtel are done by Ericsson. After Airtel took over Zain, they have agreed to extend these collaboration to the African operations of Airtel (Airtel, 2010).

Vodafone-NSN: Vodafone and NSN have also similar understandings to manage and optimize the networks of Vodafone. NSN has similar deals with other telecom operators as well (rcrwireless.com, 2011).

Huwei-Aircel: Chinese vendor Huwei and Aircel of India have entered a 120 million USD deal to test and deploy LTE networks. This deal is going to be a long term joint venture between the two (telecompaper.com, 2012).

6.3.5 *Changes in Advertising and Branding*

Advertisement and branding in India used to be trivial matters before the 1990s. However when the markets were liberalized and competition sky rocketed, the old tradition changed a lot. Now, companies like Vodafone spend a lot to capture the market. The brand building too has been very important. Some companies even use social scientists and gaze experts to judge the effects of their advertising and branding. Airtel, Reliance and Idea are in the top 100 telecom brands of the world.

6.3.6 *Looking for Fixed Network and Infrastructure Business*

Like their western counterparts, Indian telecom companies are also looking forward to have fixed telephone markets. Some of them like Airtel and Reliance are also deploying optical fibers. They have ambitious plans for the future. Reliance Infocom bought Flag Telecom of UK in 2002 and it deploys undersea long distance optical fiber cables in the Indian Ocean regions.

6.3.7 *Introduction of VAS and new Services like ´Airtel Money´*

This is a value added service or VAS on the mobile platform. It does not need many hassles and quite easy to use. In India the population is huge and the numbers of banks in the rural areas are very few. So, people prefer these services like Airtel money to transact. Not only the money transfer there are several VAS very popular over the mobile platforms in India.

6.3.8 *Expanding Services in other Related and Unrelated Sectors*

Mobile platforms are no more limited to the voice services. First the short message services came. Then arrived the picture and video related services. Now there are so many VASs being operated on the mobile platform.

6.3.9 *New Services Adaptable with VoIP*

All the main telecom operators of India are looking towards the VoIP service for the long distance voice communications. They provide international calling cards which generates money for the international calls. Using these calling cards the customers can save substantially.

6.3.10 *New Ventures with Companies like Google on the Android Platforms*

Indian telecom companies also want to take a significant role in the upcoming mobile and handheld device platforms. Several companies now produce applications for these platforms. Some of them are collaborating with the researchers of Google and Apple.

Company wise Airtel is the most successful Indian telecom company. It has also grown globally: 6 million customers in 2001 and now it has more than 164 million customers. In 2001 it was not even covering several states of India, but in 2011 it has a global presence in 19 countries after its takeover of African operations of Zain. It can be observed in Figure 38.

Airtel in 2001 Airtel in 2011

Figure 39 – Global Presence of Airtel in 2001 and 2011. Source: Annual Report (2001, 2011)

Chapter 7
Comparison between the European and Indian Industries

At this juncture, it is very much clear that the European and Indian telecom markets are very much different in several aspects. It is also true that the market nature and their dynamics are also very dissimilar. In the following sections the similarities and differences between the two markets are presented.

7.1 The Figures

The markets of both Europe and India are huge in their own right. European Market has a huge revenue, perhaps continent wise the largest telecom market. But Indian market is the 2nd largest national market in terms of number of subscribers. The total number of subscribers of India is more than that of Europe. But the revenue of Indian telecom sector is less than that of Europe. It is due to the differences in the economy. The Indian market is a developing market with low labor costs, whereas the European market is highly developed with high labor costs.

7.2 Similarities

At the end, the similarities between the European telecom sector and its Indian counterpart are warped up here in this section. Both the markets are huge in size. In last ten years both markets have grown significantly. The competition has become fierce in both the cases. Both the markets have gone for internationalization to increase their sizes and profits.

GSM and its legacy technologies are the main drivers of telecom growth in both Europe and India. Though India allows CDMA operators, GSM has the lion's share in its market. Europe is the GSM-land. It has almost no presence of CDMA in the voice communication sector.

Fierce competition is common to both the Indian and European markets. It is not easy to manage for the complacent in either market.

7.3 Differences

Despite the above similarities, there are several differences between the two markets. The European market is saturated in terms of tele-density. However, the Indian market is still growing and it would take another ten years or so to be saturated. The European market is thus looking for alternative ways to expand its horizon such as the broadband services like 3G, 4G and WiMAX. In India, this segment is growing but not as fast as the 2G segment. The European market is looking towards the additional components like mobile computing and location based services to bring extra revenue. These sectors are growing slowly in India. Alliances between the rivals are quite common in Europe, but in India it is not that common though there are few such cases at the small scale.

In India both CDMA and GSM technologies are used for all kind of mobile communication and its related services. Though GSM has a larger share, India is still one of the largest markets of CDMA in the world. Of course there is a strategic partnership between Qualcomm (parent company of CDMA) and the Indian mobile operators in this regard. According to that, Qualcomm takes less royalty from the Indian operators for using CDMA technologies. The royalties paid for CDMA is less than the royalties paid for GSM.

In Europe GSM is everywhere for voice and CDMA is used only for data and that too only in a few countries. That is quite obvious because most of the European operators do not pay any royalty for GSM as it is their own technology. However, for CDMA they have to pay some royalty.

Landline density per 100 people is far larger in Europe than in India. It is due to the early developments of Europe. Also their infrastructure is very much uniform across the countries. In India the rural areas do not have advanced infrastructure. So the land line density is low. The price factor also plays a role in the decrease of landlines. Over the years India's landline density is shrinking.

The broadband subscriber density of Europe is also highest among the continents. Along with that the varieties of broadband technologies have also changed. Wireless broadband is the fastest growing sector among all broadband access technologies.

Overall teledensity of Europe is highest among the continents. In India the cities have the comparable rate of teledensity as Europe. But the rural teledensity is far lower than the national average. But in Europe it is not the case. Though the rural teledensity is lower than the cities in Europe but they are very much near the 100% mark.

European telecom companies do cutting edge research in telecommunications. They file a large number of patents every year. They make money from patents and save money from royalties. Innovations make them the trend setters in the world.

However, Indian telecom companies are far away from their European counterparts in this respect. All the Indian companies pay a huge amount for the royalties of the technologies they use. Slow innovation processes are among the main reason behind the slow growth of telecom companies of India.

The European market is very much saturated. There is almost no place for external companies to start business in telecom sector. It is a tough place for new entrants. Even the existing players find it tough to survive in some countries.

However, the Indian telecom market is still investor friendly. There are a lot of opportunities for new entrants and several different operations. The VAS attraction in Indian market is quite remarkable. Services such as mMoney and mPesa are very popular and binding the rural India with the modern markets, which are absent in Europe.

7.4 Strategic Differences between the two Markets

Some strategic differences between the two markets are there. European market is already saturated and looks for alternative services for revenue. Entering new markets within Europe does not provide much return rather the business processes become too difficult to handle due to the tough competitions. New services as described in the previous sections such as the mobile computing, location based services are quite encouraging in the growth. Almost all the European companies remain static in their service coverage within Europe. Alternatively, they look for opportunities outside Europe. North and South Americas are used to be a growth area for them. But as of 2011, the growth rates of these markets have come down and the revenues from the operations in these markets are almost stagnant. The case of Australia is also similar. Only Africa and some countries of Asia provide high growth trends. African telecom markets are still virgin in some countries. The teledensity is also quite low. But the case of Asia is different. It has all kind of diversities and a rising marketplace for investment for European telecom operators.

Indian market is not as saturated as the European market. Its subscriber base is huge and increasing. Especially in the rural India, the teledensity is growing very fast. This is very much attractive for the existing and new telecom operators. In the last few years, Indian market has got large FDIs in this sector. There are also new opportunities for the additional service over the mobile platforms.

Conclusion

European telecom market was analyzed with the major events of the last decade. European telecom market has evolved very differently from other world markets as described in Chapter 2, 3 and 4. Now it is almost saturated and the growth rate is very small. The only growths are happing in the value added services sectors such as the mobile computing applications. Of course new technologies such as 4G and LTE opened the doors for new markets. Otherwise the European market is very much saturated and stagnant as far as the numbers of subscribers are concerned. Thus the competition is quite fierce and there is almost no place for the new entrants with the traditional services.

In contrast to that, Indian market is very much young and the growth rates are in the double digits. India is also a versatile market with a lot of variety of service providers, operators and customers. Rural India has a significant void of teledensity. It is an area of concentration for both the domestic and international operators. In addition to that Indian market is a big attraction due to its huge size in terms of number of subscribers and revenue growing potentials.

Strategically, there are a lot of changes in the European market. Some of the companies have grown very rapidly and leading the global communication. Some of them have struggled to keep their positions intact. Most of them have increased their coverage area of services. But a few have done the reverse. All these moves are strategy driven to keep their operations in track and healthy. Marketing and cultural issues are of main focus for the big players. They have handled these issues successfully to a large extent. The branding and advertisement have changed over the decade. In 2011, the telecom operators of Europe are among the biggest brands of the world. The brand values have increased significantly as well.

Indian companies too have looked forward in different aspects. Some of them have crossed the border and have multinational operations now. They have strategic collaborations with international operators which help both in the business and technology transfers. Indian companies have grown very fast in the last decade in terms of their revenue. Some of the operators have been placed in the top ten in various aspects.

Overall, the big companies with the right strategy are doing well. Strategic changes are always there for them. The right changes are the right time and right places pay the maximum returns. Most of the changes with positive intention have given encouraging results. However, immature and stupid changes in strategies have backfired.

However, the focus of strategic management is changing from the traditional courses. In the modern days it is more value oriented than short term market capture. This will hopefully remain the trend for telecom companies for the coming decades.

Bibliography

Agar, J. (2003). *Constant Touch: A Global History of the Mobile Phone*. Duxford, Cambridge, UK: Icon Books.

Ahonen, T. (2002). *m-Profits: Making Money from 3G Services*. NY: John Wiley.

Albrecht, K. (2011). Supermarket Cards: The Tip of the Retail Surveillance Iceberg. *Denver University Law Review*, Volume 79, Issue 4, pp. 534-539 and 558-565.

Anwar, S. T. (2003). Cases of Vodafone and the wireless industry: a case in market expansion and global strategy. *Journal of Business & Industrial Marketing*, Vol. 18 Issue: 3, pp. 270 – 288.

ARCEP. (2006, February). Public Consultation on the wholesale market for SMS call termination on public mobile telephone networks. Available from: *http://www.art-telecom.fr/fileadmin/uploads/tx_ gspub lication/consult-tasms-241005-eng.pdf.*

Beardsley, S. (1998, May). Full Telecom competition in Europe is years away. *The Mckinsey Quarterly*.

Bekkers, R., Duysters, G. & Verspagen, B. (2002). Intellectual property rights, strategic technology agreements and market structure: The case of GSM. *Research Policy*, Vol. 31 , pp. 1141–1161.

Bhargava, H., Choudhary, V. & Krishnan, R. (2000). Pricing and product design: intermediary strategies in an electronic market. *International Journal of Electronic Commerce*, 5 (1/Fall) pp. 37–56.

Binmore, K. & Klemperer, P. (2002). The Biggest Auction Ever : The Sale of the British 3G Telecom Licenses. The *Economic Journal*, Vol. 112, no. 478, March, pp. C74-C96.

Bjorkdahl, J. & Bohlin, E. (2002). Financial Analysis of the Swedish 3G Licensees: Where are the Profits. *info*, vol. 4, no. 4, pp. 10-16.

Choi, S. K., Lee, M. & Chung, G. H. (2001). Competition in Korean mobile telecommunications market: business strategy and regulatory environment. *Telecommunication policy*, vol. 25, pp. 125-138.

Coen, D. (2005). Managing the political life cycle of regulation in the UK and German telecommunication sectors. *Annals of Public and Cooperative Economics*, 76 (1), pp. 59–84.

Daly, A. & Moloney, D. (2004). Managing Corporate Rebranding. *Irish Management Review*, November, vol. 17, no 1, 2.

Dobbs, A. (2002). The Assessment of Market Power and Market Boundaries Using the Hypothetical Monopoly Test. Department of Accounting and Finance, and Newcastle School of Management, University of Newcastle upon Tyne, NE1 7RU, UK.

European Commission (2002, July). Comparative Assessment of the Licensing Regimes for 3G Mobile Communications in the European Union and their Impact on the Mobile Communications Sector. *McKinsey & Co.*

European Commission. (2002). Eighth Report on the Implementation of the Telecommunications Regulatory Package. COM,695.

Fan, P. (2004). Catching up through developing innovation capability: evidence from china's telecom-equipment industry. *Technovation*, vol. 26, pp. 359-368.

Furuskar, A., Mazur, S. F., & Olofsson, H. (1999). EDGE: enhanced data rates for GSM and TDMA/136 evolution, *IEEE Personal Communications*, 6 (3) , pp. 55–66.

Garrard, G. (1998). *Cellular Communications: Worldwide Market Development*. Boston, MA: Artech House Publishers.

Geroski, P. (2003). Competition in markets and competition for markets. *Journal of Industry, Competition and Trade*, vol. 3, pp. 151–166.

Geser, H. (2004). Towards a Sociological Theory of the Mobile Phone, University of Zurich http://socio.ch/mobile/t_geser1.htm

Gruber, H. & Verboven, F. (2001). The Evolution of Markets Entry and Standards Regulation: The Case of Global Mobile Telecommunications. Katholieke Universiteit Leuven.

Hitt, M. A., Ireland, R. D. & Hoskisson, R. E. (2009). *Concepts of Strategic Management: Competitiveness & Globalization*, 9th ed., Mason, OH: South-Western Cengage Learning.

IEEE. (2005). *A Brief History of Communication*, IEEE Communications Publication.

Jamison, M. A. & Chan-Olmsted, S. (2002), Rivalry Through Alliances: Competitive Strategy in Global Telecoms Market. *European Management Journal*, vol. 20, no1, pp. 95-97.

Kallio, J., Markku, T. & Tseng, A. (2006). An international comparison of operator-driven business models. *Business Process Management Journal*, vol. 12, Issue: 3, pp. 281 – 298.

Kathuria, R. (2008). *Prospects for the telecommunications sector under the Indo-Europe trade and investment agreement.* Report of ICRIER

Kevin, J. & Brien, O. (2005, June 29). Cell phone customers put new technologies on hold. *International Herald Tribune.*

Kotler, P. & Turner, R. (1985). *Marketing Management: Analysis, Planning, and Control*, Canada: Prentice-Hall.

Krafft, J. (2003). Vertical structure of the industry and completion: an analysis of the evolution of the info-communications industry, T*elecommunication policy*, vol. 27, pp. 625-649.

Langlade, J. (1997). International competitive in Asia Broadband telecommunications and interactive multimedia. Telecommunication *policy*. vol. 21, pp 235 -249.

Lehr, W. & Kiessling, T. (1999). *Telecommunication Regulation in the United States and Europe: The case for centralized authority*, MIT Dspace.

Liu. C. & Jayakar, K. (2012). The evolution of telecommunication policy making; comparative analysis of China and India. *Telecommunication policy*, vol. 36, pp. 13-28.

Maitland, C. F., Bauer, J. M. & Westerveld, R. (2002). The European market for mobile data: evolving value chains and industry structures. *Telecommunication Policy*, vol. 26, pp. 485-504.

Mansell, R. & Jenkins, M. (1994). Telecommunication strategies:, incremental change in Europe. *Elsevier science publisher*, The Ned, 9th Int Conf on Global telecommunications strategies and technological changes, pp. 81 – 96.

Marleba, F. & Nelson R. R. (2012). Innovation and Learning for Economic Development: The Evolution of Sectoral Telecommunication, *Edward Elgar Publishing*

Meyer-Krahmer, F. & Reger, G. (2000). New perspectives on the innovation strategies of multinational enterprises: lessons for technology policy in Europe. *Science Direct,* Available online from 11 January 2000.

Minzberg, H. (1999). Reflecting on the strategic process. *Sloan Management Review*, Spring Issue.

Minzberg, H. (1994). *The Rise and Fall of Strategic Planning*. NY: The Free Press.

Pehrsson, A. (2001). *Strategy in Emerging Markets: Telecommunications Establishments in Europe*, London, UK: Rutledge.

Porter, M. E. (1980). *Competitive Strategy*, New York: The Free Press.

Porter, M. E. (1985). *Competitive Advantage*, New York: The Free Press.

Porter, M. E. (1986). *Competition in Global Industries*, Boston, MA: Harvard Business School Press

Porter, M. E. (1987). From Competitive Advantage to Corporate Strategy, *Harvard Business Review*, May/June 1987, pp. 43-59.

Porter, M.E. (1979, March/April). How Competitive Forces Shape Strategy, *Harvard Business Review*, pp. 91-102.

Porter, M. E. (1998). *On Competition*, Boston, MA: Harvard Business School Press.

Porter, M.E. (2001, March). Strategy and the Internet. *Harvard Business Review*, pp. 62-78.

Porter, M.E. (2006). Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility. *Harvard Business Review*, December, pp. 78-92.

Porter, M.E. (2008). The Five Competitive Forces That Shape Strategy, *Harvard Business Review*, January 2008, pp. 79-93.

Porter, M.E. (1996, Nov/Dec). What is Strategy?. *Harvard Business Review*, pp. 58-72.

Pouillot, D. (2002). Key Profitability Factors for Future UMTS Operators. *Communications & Strategies*, vol. 46, 2nd quarter.

Shaw, J. K. (2000). *Strategic Management in Telecommunications*, Norwood, MA: Artech House.

Rosenbush, S. (1997). *Telecom Business Opportunities: The Entrepreneur's Guide to Making Money in the Telecommunications Revolution*, London, UK: Aegis Publishing Group.

Steinbock, D. (2001). Assessing Finland's wireless valley: can the pioneering continue?. *Telecommunication Policy*, vol. 25, pp. 71-100.

Strouse, Karen, G. (2001). *Strategies for Success for the new Telecommunication Marketplace,* Norwood, MA: Artech House.

Sung, N. (2011). Competitive rivalry,inter-modal competition and market performance in the Korean cable television markets: an empirical analysis, *Telecommunication Policy*, vol 35, pp. 483-493.

Whalley, J. & Curwen, P. (2003). License acquisition strategy in the European mobile communications industry, *Telecommunication Info*, Vol. 5 Iss: 6, pp.45 – 57.

Zhang, X. & Prybutok, V. R. (2005). How the mobile communication markets differ in China, the U.S., and Europe, *Communications of the ACM*, Volume 48 Issue 3, March 2005 *,* Pages 111 – 114.

Aircel. (2011). *2011 Annual Report of Aircel.*

Airtel. (2010). *2010 Annual Report of Airtel*

Airtel. (2011). *2011 Annual Report of Airtel*

Airtel. (2001). *2001 Annual Report of Airtel*

British Telecom. (2011)*2011. Annual Financial Report of British Telecom.*

British Telecom. (2011). 2011 *Annual Report of British Telecom*.

British Telecom. (2001). *2001 Annual Financial Report of BT*

British Telecom. (2001). *2001 Annual Report of BT*.

British Telecom. (2001). *2001 Annual Financial Report of British Telecom.*

Deutsche Telekom. (2001). *2001 Annual Report of Deutsche Telekom.*

Deutsche Telekom. (2010). *2010 Annual Report of Deutsche Telekom.*

Deutshe Telecom. (2011), *2011 Annual Report of Deutsche Telekom.*

DoT. (2001). *2001 Annual* Report of DoT, India.

DoT. (2002). *2002 Annual Report of DoT, India*.

DoT. (2003). *2003 Annual Report of DoT, India*.

DoT. (2004). *2004 Annual Report of DoT, India*.

DoT. (2005). *2005 Annual Report of DoT, India*.

DoT. (2006). *2006 Annual Report of DoT, India*.

DoT. (2007). *2007 Annual Report of DoT, India*.

DoT. (2008). *2008 Annual Report of DoT, India*.

DoT. (2009). *2009 Annual Report of DoT, India*.

DoT. (2010). *2010 Annual Report of DoT, India*.

DoT. (2011). *2011 Annual Report of DoT, India*.

DoT. (2006). *2006 Annual Financial Report of DoT, India*.

DoT. (2007). *2007 Annual Financial Report of DoT, India*.

DoT. (2008). *2008 Annual Financial Report of DoT, India*.

DoT. (2009). *2009 Annual Financial Report of DoT, India*.

DoT. (2010). *2010 Annual Financial Report of DoT, India*.

France Telecom. (2001). *2001 Annual Report of France Telecom.*

France Telecom. (2010). *2010 Annual Report of France Telecom.*

France Telecom. (2011). *2011 Annual Report of France Telecom.*

Idea Cellular. (2010). *2010 Annual Report of Idea Cellular*.

Idea Cellular. (2011). *2011 Annual Report of Idea Cellular.*

ITU. (2001). *2001 Annual Telecommunication Report of ITU*.

ITU. (2009). *2009 Annual Telecommunication Report of ITU*.

ITU. (2010). *2010 Annual Telecommunication Report of ITU*.

ITU. (2011). *2011 Annual Telecommunication Report of ITU*.

ITU. (2012). *2012 Annual Telecommunication* Report of ITU.
MTNL. (2011). *2011 Annual Report of MTNL.*
MTS. (2001). *2001 Annual Report of MTS.*
MTS. (2010). *2010 Annual Report of MTS.*
MTS. (2011). *2011 Annual Report of MTS.*
MTS India. (2011). *2011 Annual Report of MTS India.*
Portugal Telecom. (2001). *2001 Annual Report of Portugal Telecom.*
Portugal Telecom. (2010), *2010 Annual Report of Portugal Telecom.*
Portugal Telecom. (2011). *2011 Annual Report of Portugal Telecom.*
Reliance Infocom. (2010). *2010 Annual Report of Reliance Infocom*
Reliance Infocom. (2011). *2011 Annual Report of Reliance Infocom*
Reliance Infocom. (2001). *2001 Annual Report of Reliance Infocom*
Tata Teleservices. (2011). *2011 Annual Report of Tata Teleservices.*
Telecom Italia. (2011). *2011 Annual Report of Telecom Italia.*
Telecom Italia. (2010). *Annual Report of Telecom Italia.*
Telecom Italia. (2001). *2001 Annual Report of Telecom Italia.*
Telefónica. (2001). *2001 Annual Report of Telefónica.*
Telefónica. (2010). *2010 Annual Report of Telefónica.*
Telefonica. (2011). *2011 Annual Report of Telefónica.*
Telenor. (2001). *2001 Annual Report of Telenor.*
Telenor. (2010). *2010 Annual Report of Telenor.*
Telenor. (2011). *2011 Annual Report of Telenor.*
TeliaSonera. (2001). *2001 Annual Report of TeliaSonera.*
Teliasonera. (2011). *2011 Annual Report of TeliaSonera.*
TeliaSonera. (*2010). 2010 Annual Report of TeliaSonera.*
TRAI. (2010). *2010 Annual Report of TRAI, India*.
TRAI. (2011). *2011 Annual Report of TRAI, India*.
Vodafone. (2001). *2001 Annual Report of Vodafone.*
Vodafone.(2010). *2010 Annual Report of Vodafone.*
Vodafone. (2011). *2011 Annual Report of Vodafone.*

Webography

http://www.vodafone.com
http://www.bt.com
http://www.telecom.pt
http://www.telenor.no
http://www.teliasonera.com
http://www.mtsgsm.com
http://www.cnnmoney.com
http://www.wikipedia.com
http://www.tech.fortune.cnn.com
http://everythingeverywhere.com/
http://www.orange.co.uk/
http://www.t-mobile.com/
http://www.mts.ru/
http://www.telecomitalia.com/tit/en/about-us/profile/latin-america.html
http://www.plunkettresearch.com/telecommunications-market-research/industry-and-business-ata/statistics

http://www.airtel.in/
http://www.rcom.co.in/Rcom/personal/home/index.html
http://www.ideacellular.com/
http://www.bsnl.co.in/
http://www.mtnl.net.in/
http://mtnldelhi.in/
http://www.uninor.in/Pages/home.aspx
http://www.vodafone.in/pages/index.aspx
http://www.mtsindia.in/
www.dotindia.com
www.reservebankofindia.com
http://www.brandrepublic.com/news/1059821/
http://everythingeverywhere.com/2011/04/28/everything-everywhere-evolution-on-track-with-commercial-stability-despite-slowing-market/
http://everythingeverywhere.com/brands/
http://everythingeverywhere.com/2012/05/02/everything-everywhere-results-for-the-first-quarter-to-31-march-2012/
http://everythingeverywhere.com/2012/05/02/everything-everywhere-launches-first-live-4g-customer-trial-in-the-north-of-england/
http://everythingeverywhere.com/network-guide/
http://everythingeverywhere.com/vision/
http://www.marketingweek.co.uk/everything-everywhere-readies-orange-and-t-mobile-brand-campaigns/3033664.article
http://www.multinationalsolutions.Telefónica.com/en/Telefónica/about-us/commercial-presence.aspx
http://online.wsj.com/article/SB10001424052970203413304577088180993556996.html
http://charts.medianama.com/indian-telecom-subscriber-and-revenue-report-%E2%80%93-operator-data/
http://www.diplointernetgovernance.org/group/CoE/forum/topics/tier-1-operators
http://www.cdg.org/worldwide/cdma_world_subscriber.asp
http://www.rcrwireless.com/
http://www.networkworld.com/
http://www.telecompaper.com/
http://www.fiercetelecom.com/